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MOTOR

Magazine



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Seek Fade-Free Brakes Page 44 Boost Summer TBA Sales

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RESERVE TENSION MAINTAINS PEAK OIL CONTROL LONGER

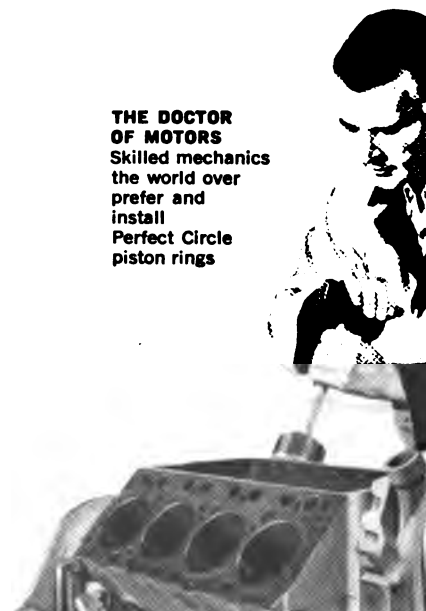
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MOTOR, July 1961

AS **MOTOR** GOES TO PRESS

Last-Minute News . . What It Means . . What's Ahead

Dealers Face Three Months of Red Ink

When June sales fell off disappointingly, car dealers were shocked into the realization that their last chance to make a profit until October had eluded them. Although the rest of the year may show a profit over-all, July, August and September look like certain losers to most retailers. The outlook is so bleak that scores of dealers are getting out rather than face the discouragements. Bankruptcies may not be increasing but voluntary dropouts emphatically are.

Production Cutback Is Due This Month

With the 1961 model run almost at an end, car output will begin to slow down this month. Only a few more Ford and Chevrolet products remain to be built in August. After that production of 1961's will be shut off. July schedules call for 465,000 units, a sharp cutback from the 561,000 cars assembled in June, the highest monthly run so far this year.

Optimism Not Based On Past Experience

Though Detroit still talks in terms of a good market between now and new-model time, history is against optimism. Only once in the last decade have third quarter sales been close to the second quarter. June business failed to match May, a development factory sales chiefs were unable to explain. They were confident May's upsurge would carry into June but the trend turned down. Dealers delivered an estimated 500,000 domestic cars in June, a decline of 30,000 from May.

Dealer Car Stocks On Way Up Again

Detroit forecasters did better at calling the turn on inventories than they did on sales. As reported in MOTOR last month, industry quarters predicted a rise in June and stocks shot up, ending a three-month down trend. Padded by the addition of 25,000 cars in June, dealers entered July with a stock of 963,000 cars. Although this is about 75,000 cars below June 1960, dealers have their work cut out if they are to escape a heavy carry-over of obsolete 1961 models.

Used Car Sales in June Year's Best

June used car business was the best of the year. Most dealers are moving their trades not in the recommended 30 days but within three weeks. Ford and General Motors dealers are down to a 20- to 25-day supply of secondhand cars.

Labor Talks Begin On Friendly Note

A cordial atmosphere on both sides marked the opening of contract negotiations between car makers and the United Auto Workers union. Although outlook is for a harsh contest before a new contract is hammered out, industry observers could not recall a time when labor-management talks kicked off on such a friendly note. Principal source of difference is expected to center on the union's demand for salaries for production workers, who have always been paid on an hourly basis.

Factories Too Busy For Dealer Complaints

Warning to dealers: This is not an auspicious time to hit factories for favors, especially with requests requiring approval of top policy makers. Aside from the usual incubation problems with new models, industry chiefs are huddled over their strategy for contract negotiations with the United Auto Workers. Dealers would do better to save their complaints until after new models and labor talks are out of the way.

New 115-in. Ford To Resemble Comet

The "in-between" Ford, a car with a wheelbase of 115 in., that will be priced between the standard Ford and Falcon, is said to reveal a close resemblance to this year's Comet, although the identification is not as strong as in the case of the current Valiant and Lancer. Company thinking is that this car might become the bread-and-butter model for Ford retailers.

Don't Quote 1961 Prices On 1962's, Dealers Told

Dealers accepting orders for 1962 models before factories post prices, a widespread prac-

tice last year, are being warned against using 1961 tags in quoting to customers. New models will bring numerous price changes, up and down, as manufacturers adopt new marketing strategies. The price should be left open until dealers have the new lists in hand.

Oldsmobile to Have Field to Itself

Dealers holding the Oldsmobile franchise may wind up with the most exclusive market in the industry, a field entirely to themselves with only token competition. The division has not had any serious opposition from Ford and Chrysler since last year when both Mercury and Dodge dropped to a lower-price notch and De Soto bowed out. Word now is that Buick, long a rival of Olds, will go the Pontiac route in 1962.

1962 Buick Special To Sell for Less

Buick dealers who carry 1961 Specials into the next model year could find their merchandise seriously behind time on price. The 1962 model will not make the current car obsolete as to style, but the next version of the Special may sell for \$100 to \$200 less than the present car. Extent of the cut will depend on how much money company can save by using its new cast-iron V-6 as the standard plant in place of the now standard aluminum block V-8.

Second Half Rise In Output Foreseen

Second half output will surpass the first half total by 100,000 cars, T. J. Obal, senior Ford Motor Co. economist, told the U. S. Chamber of Commerce recently. This would be the first time since 1950 that the second half has topped the preceding six months. He also

foretold a 5,500,000 car year for 1961 and said that dealer stocks would shrink to 650,000 units by Sept. 1.

Others to Follow GM On Demonstrator Rebates

Other car factories are seen following GM's lead in extending the 5 per cent rebate on old-model holdovers to include demonstrators; may move even before this reaches readers. Development is not looked upon with favor by some firms hard-pressed to show a profit, but dissenters feel they have no choice except to follow GM.

Big 3 to Show New Lines in September

All Big 3 lines save one will be introduced in September. The single exception is an addition to Lincoln-Mercury ranks which will not be out until November. American Motors is not expected to announce its wares before first week of October.

Factories to Lift Ban on Racing

Detroit's hot-rod set, members of whom prefer the milder tag of "high performance enthu-

siast," foresee the final collapse of the ban on car company participation in racing and emphasis on horsepower by next summer. Formal lifting of the ban will be an empty gesture for many firms, who have long engaged in "high performance events" in various ways.

Dealers to Get First 1962's Late in August

With the exception of a few Ford and Chevrolet plants, industry will end 1961 model output this month. But new models won't move in volume until next month due to time needed to install production equipment and make line changes. Dealers should begin receiving initial shipments of new models about third week of August.

Dualing of Makes To Be Discouraged

Detroit will seek to discourage dealers from further dualing of brands in the new model year, although retailers who are already handling a mix of makes are safe enough. Except in the rare instance, they will not be asked to surrender conflicting franchises.

Brief but Important

Addition to the Chevrolet line, which will go between the standard car and Corvair, may be tagged with the Latin for new, Nova....Some factory field men are giving dealers the old one about an inventory shortage between now and new models in an effort to get merchants to take more cars.... The unemployment problem in Detroit applies to executives, too. Several top figures at factories who have made no secret of the fact they would like to move to new jobs or change companies have quit looking and quietly settled into lesser posts with their old employers. No openings elsewhere....New entry in Pontiac's Ventura series will be the Grand Prix, a bucket-seat job....Executive of a Big 3 company, who asked his division's advertising agency why it could not produce consumer copy as striking as the Volkswagen ads, drew this answer, "We could, if the client was in Europe.".... Chevrolet dealers will have three convertibles for 1962....Former dealer now active in a trade group where he has numerous contacts with factory officials is invariably late for appointments. Intentionally, he confides, "to make up for all the times I had to wait for factory people in my 30 years as a dealer."

Some Shops and Jobbers
Ignore Service Letup

June brought a halt to the rapidly expanding demand for service that marked the preceding two or three months, but all repairshops and jobbers were not affected equally. Where the repairshop has been heavy on repairs essential to keeping vehicles running, business has been good and jobbers strong on hard parts and shop work also found volume satisfactory. The current slow-down, which is running around 5 per cent below the same time last year, is due principally to two factors. One is a disposition on the part of car owners to postpone everything but vital repairs. A second is the attitude of car dealers, whose paper-thin profits this year have forced them to buy with great care.

Finance Disclosure
Bill Hearings Set

Senator Douglas' "truth in lending" bill, which would require all retailers to inform all installment buyers of the interest charged them in terms of simple annual interest, is up again for hearings. These have been set for July 17 to 20 before a subcommittee of the Senate Banking Committee.

New Hearings
On Celler Bill

Emanuel Celler's bill, which would forbid automobile manufacturers to finance or insure the cars they make, was again a subject of hearings before the anti-trust subcommittee of the House Judiciary Committee. It is too early to gauge the possible fate of the bill, since powerful forces are both for and against it. The car companies oppose the bill, independent finance and insurance firms and the IGOA back it.

IGOA Pick Millikin;
Rap Tempered Glass

George Millikin, Youngstown, Ohio, was elected president of the IGOA at the recent 6th annual meeting at St. Paul, Minn. Art Fox, Cedar Rapids, Ia., was named first vp; George Millinger, St. Louis, second vp; and John Breneman, Lancaster, Pa., third vp. Bryan Davis, Raleigh, N. C., was chosen secretary-

treasurer. The meeting adopted a resolution that calls on car factories to halt the use of tempered glass in new cars. Another resolution called on the association to launch a program of member services.

First Ford Cardinal
Due May Next Year

New timetable on Ford's Cardinal, a sub-compact size car, is as follows: Pilot production will get under way at a German plant in February. Car No. 1 (first off the line after the pilot run) is due May 18, 1962. Public introduction is planned for July, as a 1963 model. The foregoing dates are official as of now, but could be revised.

Factories to Check
Warranty Cheating

Car factories will start to crack down this fall on dealers who collect twice on warranty work, once from the customer, a second time from the factory. Names of some offenders are already known to factories. Buyers who expected but did not get better treatment after new car warranties were extended have flooded the factories with complaints. In letters where dealers are identified by name, the factories have been able to check consumers' mail against warranty claims by the dealers, thus pinpointing retailers who have collected from both sides.

**MOTOR***Editorial*

Dealers to Spare?

A complaint heard frequently at the Task Force meetings conducted by the National Automobile Dealers Assn. was the charge that factories are crowding territories with dealers. The oversupply of dealers, it was said in some quarters, was worse than the overabundance of new cars.

This may sound odd in view of statistics which show that the number of automobile dealers has dropped steadily since the end of World War II and now is only about two-thirds as great as it was 15 years ago.

The apparent paradox is easily explained. When seen in the proper perspective, it makes the dealer stand one of the most telling of their arguments for a new deal in dealer relations.

Actually the number of retail automobile outlets has declined and continues to fall. The competitive pinch being felt by dealers today is simply the expansion of the individual dealer into other price brackets. Where before he competed against only two or three other dealers in his area, he now sells against practically everybody, because every dealer, except those handling luxury lines exclusively, has a car or model for any purse.

What the car factories can do about the dilemma is far from clear. Every factory wants to exploit as wide a segment of the market as possible and dealers themselves would probably be the first to scream if a factory threatened to spin off a series or two from those they now sell.

Perhaps a little less insistence from the factories on carrying top-heavy inventories and a bit more realistic approach to the problem of how many series or lines to build would help.

The only thing dead certain is that dealers need some kind of assistance in their present profitless plight.

EDWARD FORD
Editor

WHERE TO FIND GOOD

Chances are his own business is the best source if the dealer, using these suggestions, knows how to pick and develop youngsters already on his payroll

By Edward Ford, *Editor*

and

Robert Lund, *Detroit Editor*

Most pressing of personnel problems in car dealerships today is not a shortage of mechanics or salesmen, despite a vast hullabaloo to the contrary. Not all the specimens palming themselves off as mechanics or salesmen are of professional caliber, to be sure, but there is no lack of raw manpower in either department.

The shortage of service managers is real—so acute that most dealers, faced with the problem of replacing a man, consider it a break if they can find a mediocre man, never mind an expert.

The dealer seeking a service supervisor is usually limited to two choices: (1) He can try to pirate a man away from a competitor or (2) Advance an employe of his own and hope he will grow into the job.

This latter is Detroit's suggestion for solving the problem—that dealers grow their own. All factories have handbooks or manuals defining the service manager's function and a few firms offer seminars for service chiefs.

The factory courses are good as far as they go. But they fall short of solving the shortage because they are aimed at the man who already has a solid background in shop management and are not for apprentices. Thus the dealer still has the dual problem of finding the right man for the job and providing his basic training.

In Talking Stage

Detroit is not blind to the inadequacy of its efforts in this field and there are reports from time to time of the major companies embarking on big-scale programs to train service managers.

The fact that manufacturers are thinking in this direction is encouraging. The day may come when car makers will train service managers. But, until such a time as the idea gets out of the talking stage and down to the practical, dealers will have to develop their own service executives.

Why the shortage of service managers? And what can dealers do about it?

The shortage can be traced to the nature of the

position itself and the demands it makes on a man.

Except for the post of general manager, no other department in a dealership calls for a more diverse combination of talents and skills.

Because he comes in contact with every department in the dealership, the service manager is required to have a working knowledge of the over-all operation. He need not be an authority on every phase of the business, but he must have an insight as to how other departments function and understand their problems.

Knowing the non-shop side of the business and being able to get along with department heads outside his own sphere is only one of the many hats the service manager is expected to wear. In his own department he must be an expert in four fields—as an administrator, salesman, mechanic and in the area of customer relations. In small operations, he must of-



SERVICE MANAGERS

ten be shop foreman, chief mechanic or parts manager.

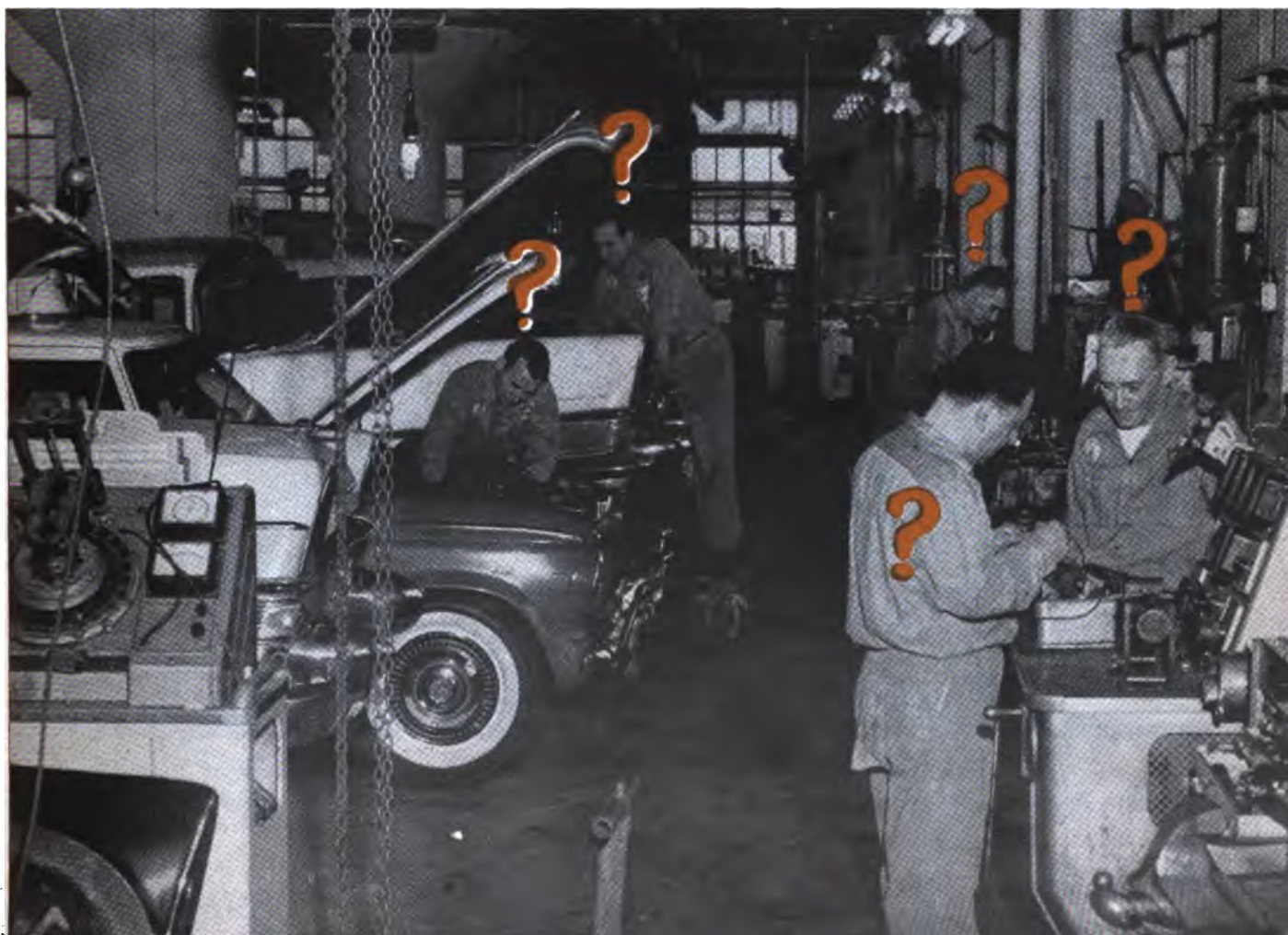
As an administrator he directs the work of others—the shop foreman, service writers and mechanics, possibly the parts manager.

He must get the best out of employes, direct their time, resolve their differences, keep them busy, know when to thunder and when to purr, when to praise and when to let a man go, how to coax a mechanic into working overtime on his lodge night, how to delegate responsibility, enforce housekeeping assignments, how to train a new man. He has to juggle all those apples without losing sight of the profit he has to earn in his department.

To turn a profit for his department, the service manager must be able to sell. This is actually requisite No. 1, topping administrative ability, mechanical know-how, customer relations. [CONTINUED ON PAGE 134]



Dealer's search for a service supervisor can begin—and perhaps end—right in his own back-shop. It all depends on his ability to choose candidate who shows most promise



Safe Plug Service on

These precautions must be taken to keep from stripping threads or otherwise damaging soft metal



Plug is inserted in rubber hose to prevent it from dropping inside Corvair's cooling shroud



After throttle rod has been disconnected, center spark plugs in both banks can be torqued

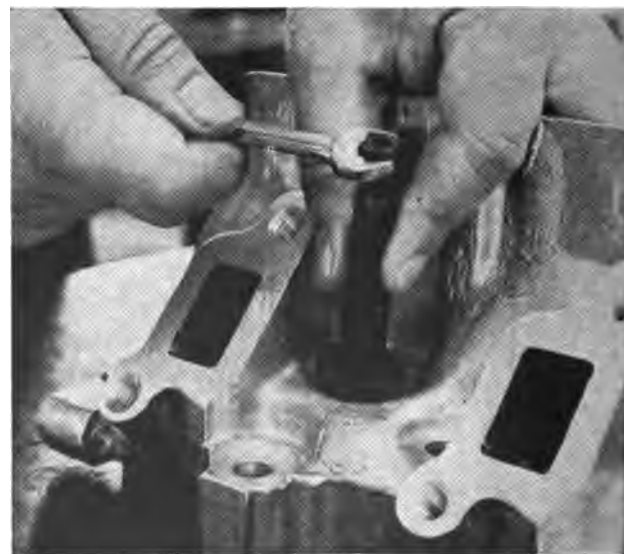
A little extra care will go a long way toward preventing stripped threads or other damage when installing spark plugs in one of the new aluminum engines.

Tightening plugs to the specified torque is especially important. Threads and seats must be kept clean to avoid nicks in the soft metal. Manufacturers' recommendations regarding lubrication of threads must be observed. If, despite all precautions, threads are stripped, knowing what to do about it will change a seeming catastrophe to a mere inconvenience.

Aluminum cylinder heads are used on the Corvair, Buick Special, Oldsmobile F-85 and Pontiac Tempest V-8. Some 6 cyl. Rambler and Chrysler Corp. engines have die-cast aluminum cylinder blocks but, since the heads are made of cast iron, no special precautions are necessary as far as spark plugs are concerned.

Before removing spark plugs from any aluminum cylinder head, first loosen them a turn or two and clean the area around the seat with compressed air. This operation, of course, should be standard procedure even with iron heads, but it is particularly important on the aluminum type. If grit particles embed themselves in the threads or seats, the aluminum surfaces will be damaged when the plugs are reinstalled.

Never loosen or remove plugs from a hot Corvair



Tap cuts threads in plug port of Buick Special cylinder head for installing Heli-Coil inserts

Aluminum Heads

engine. Wait until the heads are cool enough to touch. Threads may be stripped unless this precaution is observed. Disconnect the throttle rod before loosening the center plug in each bank. It is possible to get at these plugs without disconnecting the rod by slipping the socket over the plug, then attaching the handle. However, because it will probably be necessary to disconnect the rod later when using a torque wrench for reinstalling plugs, it might as well be taken off in the first place.

When removing or installing plugs in a Corvair, use a magnetic socket or one with a rubber insert which will prevent the plug from falling under the engine shroud. If a socket of this type is not available, use a length of rubber or plastic hose with an inside diameter of $\frac{7}{16}$ in. for gripping the plug after it has been loosened.

When cleaning and gapping spark plugs, follow the usual procedure. Be especially careful to see that threads are clean and smooth.

If you install new plugs, be sure that both reach and heat range are correct. Reach, the distance from the gasket seat to the lower end of the shell, is $\frac{1}{2}$ in. for the 14 mm plugs used in all of the new General Motors aluminum powerplants. The extra thread



Correct size thread insert is placed in special inserting tool with tang engaged in mandrel slot

length is provided to keep the plug tight in the aluminum head.

If a short-reach plug is installed by mistake, performance will suffer because the spark gap will be located too far from the center of the combustion chamber. The exposed threads [CONTINUED ON PAGE 137]

What Detroit Is Thinking



Low-Price Field to Grow

The quest for business at the low end of the price scale, where competition has always been keenest, will become even more intense in the 1962 model year. More makes will be crowded into the volume price range than at any time since the industry narrowed down to five companies.

Where most of the new entries of the 1961 model

By Robert Lund

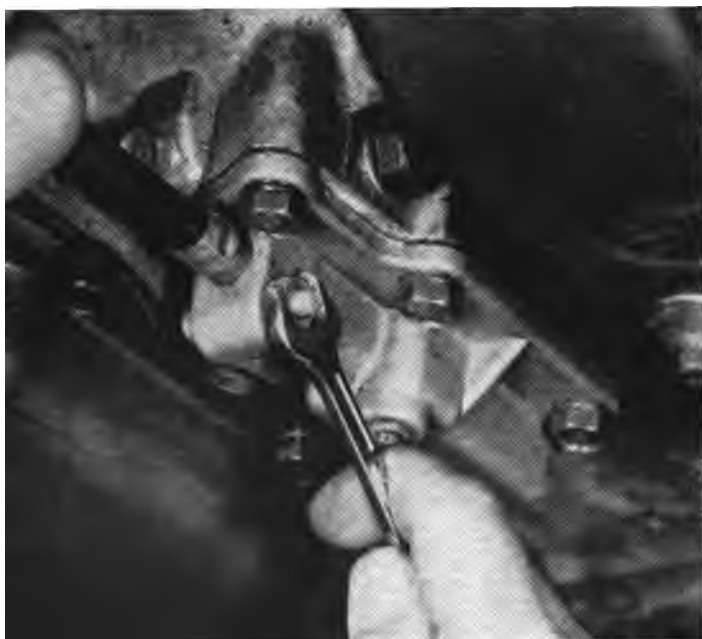
Detroit Editor of MOTOR

year were pegged at a size category (compacts), the majority of new offerings this fall will aim at a price goal—the volume end of the market. During the current model year, car makers priced 75 different vehicles at \$2,500 or less. The upcoming model run will see an even greater concentration of products priced in this area. The figure could run as high as 90 or 95 cars.

If this trend accelerates, as appears likely, the time may not be too distant when every car dealer in the country will offer at least one model in the popular price field. Meanwhile, the fight for business in this area bids to surpass anything that has gone before.

Problems Face Pioneers

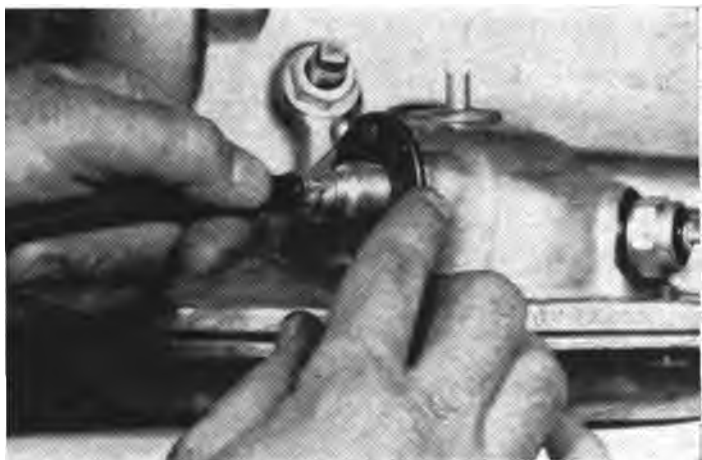
Still on the subject of the outlook for 1962, Detroit marketing experts foresee a harder fight for business for the "pioneer" compacts—Rambler, Falcon, Corvair and Valiant—in the [CONTINUED ON PAGE 167]



While cable housing is held at its outer limit of free travel, the clamp screw is tightened to adjust the parking sprag cable on Valiant model



Tightening cable housing clip at midway point of cable's free travel on earlier TorqueFlite



Turning threaded wheel to adjust push-button selector cable on current TorqueFlite drive

When parts or components of an automobile look as if they are complicated, they often are. An exception is transmission push-button controls and their related cable adjustments. In this case, appearances are deceptive because servicing and adjusting push-button linkages are relatively easy.

Most customer complaints pertain to delayed or harsh engagement of the transmission with the selected detent position. This trouble can be cured in most cases by careful adjustment of the push-button selector and "park" cables.

The push-button controls on Valiant and Dodge Lancer, 1958 and later Rambler cars with Flash-O-Matic transmission and 1957-58 Mercury with Merc-O-Matic and Multi-Drive are the two-cable type. On

Cures for

these units, one cable operates a transmission selector lever as a forward or reverse-range button is pushed. The second cable actuates the parking pawl inside the transmission as the "park" control is operated.

The control unit used on Plymouth, Dodge, Chrysler and De Soto models equipped with PowerFlite or TorqueFlite transmissions has a single selector cable. A parking control and pawl mechanism is not used on PowerFlite or TorqueFlite drives with the exception of those used on Valiant and Lancer.

On all Chrysler Corp., Rambler and Mercury control units, the cables are adjusted at the transmission. There are no adjustments at the point where the cables attach to the keyboard.

On late 1959 through 1961 TorqueFlite transmissions used on Chrysler Corp. cars, the selector cable is adjusted by means of a wheel threaded on the end of the cable housing and bolted to the transmission case.

The reverse button on the dash control should be held in its fully depressed position while the selector cable is adjusted. If necessary, the threads on the cable housing guide should be cleaned and lubricated before making the adjustment, to permit free turning of the wheel and accurate positioning of the cable in the transmission.



Removing Mercury control. Attaching nuts are accessible after removal of escutcheon and buttons



Connecting adjustable end of Rambler park cable to park lever. Lever and clevis holes must mate

Push-Button Drive Troubles

**Here's how to remove keyboard controls
and service and adjust linkages on all makes**

The adjustment is performed by removing the cap screw locking the wheel to the case and backing the wheel all the way off to the second or third thread on the guide. The cable housing and guide are then held centered in the housing with a slight force exerted to bottom the guide on the reverse detent.

With the cable housing held in this manner, the wheel is rotated until it squarely contacts the case. Then move it clockwise to align the nearest hole in the wheel with the cap screw hole in the case. With this hole counted as No. 1, the wheel is rotated clockwise to line up the fifth hole with the tapped cap screw hole. The cap screw is installed and torqued to 30 to 50 lb.-in.

Adjust TorqueFlites

On late 1958 and early 1959 TorqueFlites, a plug and locking screw are incorporated in the cable adapter housing on the case to permit adjustment. After the locking screw has been backed all the way out and the cable removed from the adapter, a rod or screwdriver is inserted through the cable hole to push the adapter all the way in to its reverse position. The screw is then turned clockwise until it bottoms on the adapter and locks it in reverse.

With the reverse button fully depressed and the adapter locked by the screw, the cable is reconnected to the adapter. The limits of free play of the cable housing within the adapter housing are scribed on the cable-housing clip and the case. With the cable held halfway between the scribe marks, the clip is tightened and the locking screw backed all the way out to seat on its plug.

To adjust the selector cable and neutral switch on PowerFlite transmissions, the switch is first removed from the transmission and the cable housing clip loosened. The cable and clip are then moved to locate the manual valve lever in neutral. This is indicated when the neutral switch cam is in the exact center of the neutral switch hole. Neutral button is depressed during adjustment.

While finger pressure is exerted or a flat-faced tool inserted through the switch hole and against the cam, the manual lever is held stationary in neutral detent while in-and-out free play limits of the cable are scribed on the transmission and clip as in the early TorqueFlite adjustment. With the cable located midway between the limit marks, pressure is released from the manual lever and the clip is tightened, exerting care not to move the cable.

After the neutral switch [CONTINUED ON PAGE 132

ENGINEERS NEARER

New designs and lining materials now being developed promise to lick a problem that has grown more serious due to sudden stops on crowded expressways

By Walter O. Koehler

Engineering Editor of MOTOR

A driver on a congested expressway spends a good deal of his time and energy stabbing the brake pedal to keep himself out of one of those chain-reaction collisions that so frequently tangle the road with wreckage. Last year in New York City alone, more accidents were attributed to tailgating—following the car ahead too closely—than to any other cause. These crashes took the lives of 105 people and injured nearly 8,300.

The pattern of frequent slowdowns and sudden stops caused by today's traffic conditions sends temperatures soaring in brake drums and linings. If brakes absorb heat faster than they can get rid of it, the result is fade. The pressure the driver must exert continues to rise until he is unable to stop the car within a safe distance.

Fade is due to a combination of circumstances, but heat is the underlying cause. After a series of slowdowns and stops, the drum may reach a temperature of 550 deg. or more, hot enough to broil a thick steak. The drum expands away from the shoes, lengthening pedal travel. Since the arc through which the brake shoes move remains constant while drum diameter increases, only the end of the shoe contacts the drum. With all of the braking pressure concentrated within a small area, the drum distorts, assuming a roughly elliptical shape. At the same time, temperature of the lining rises rapidly.

Binding Materials Melt

At some critical brake-shoe temperature, usually between 500 and 600 deg., the resin and rubber which bind the brake lining materials begin to melt. The change of this material from a solid to a semi-liquid state sharply reduces its friction. Even if there is some pedal travel left, the driver can't push hard enough to stop the car.

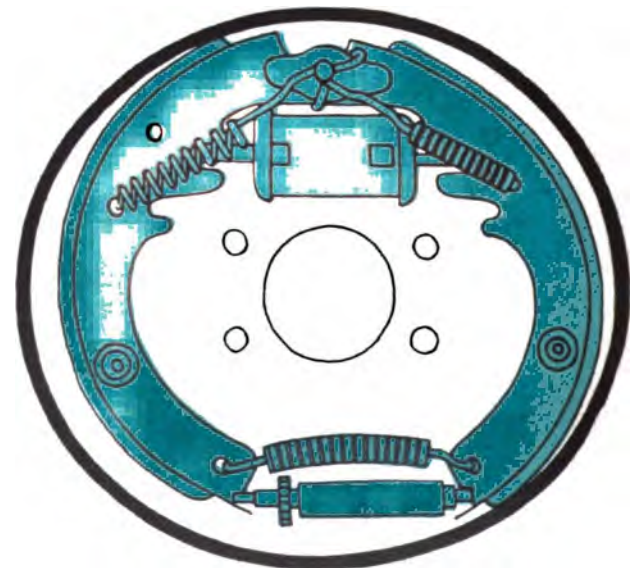
Engineers know how to build brakes with much greater resistance to fade than those used in today's cars. They just don't have a place to put them. Until the trend started to reverse with the 1961 models, car weight had increased steadily. While weight was going up, wheel diameters gradually shrunk from 16 in. to 15 and finally to 14 on most full-size cars. Smaller wheels obviously limit brake-drum diameter. Even

though drum width has been increased, lining area has not kept pace with the steady rise in weight and performance.

Small drums have two strikes against them. First, the available braking area is naturally less than in a larger drum. Consequently, pressure per square inch must be greater to obtain the same rate of deceleration. When pressure goes up, temperature also increases.

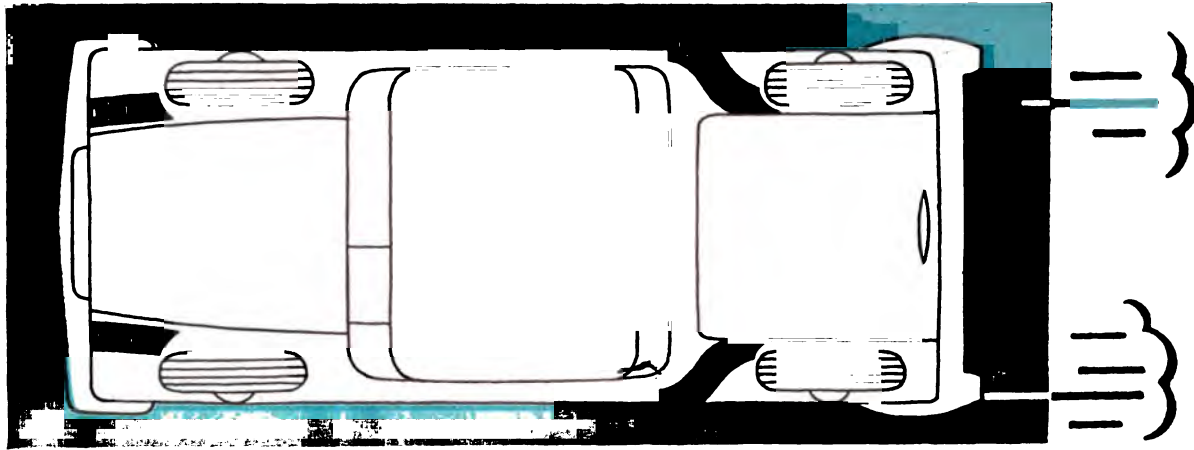
This rapid temperature rise points up the second weakness of a small drum. Since it weighs less than one of larger diameter, it cannot store much heat before reaching the critical temperature at which fade occurs. Every time a 4,000 lb. car is stopped from 70 mph, its kinetic energy is converted into a given amount of heat. The drum must absorb the bulk of this. If the drum is heavy, it may soak up the heat from a dozen successive high-speed stops before getting hot enough to cause fade, while a lighter one might overheat after only five or six stops.

The small wheels used in modern cars aggravate the fade problem by reducing air circulation around the drum. When an 11 in. or 12 in. drum is crammed into a 14 in. wheel, there is little space left for the



When heated drum expands, initial contact of brake shoes is at one end only, causing overheated linings due to concentration of pressure in small area. Pressure, heat distort drum

FADE-FREE BRAKES



One possible cure for brake fade—cooling ducts with openings in the grille for front brakes and air scoops in leading edges of the back fenders for rear brakes

flow of air. A leading car factory found out how drum temperatures varied with wheel size by driving cars down long mountain grades in Pennsylvania. At the end of the test route, front drum temperature of a car equipped with 14 in. wheels measured 570 deg. When the car was fitted with 15 in. wheels and put through the same test, maximum front brake drum temperature reached 500 deg. This 70 deg. drop could easily mean the difference between severe fading

and smooth, easily controlled brake operation.

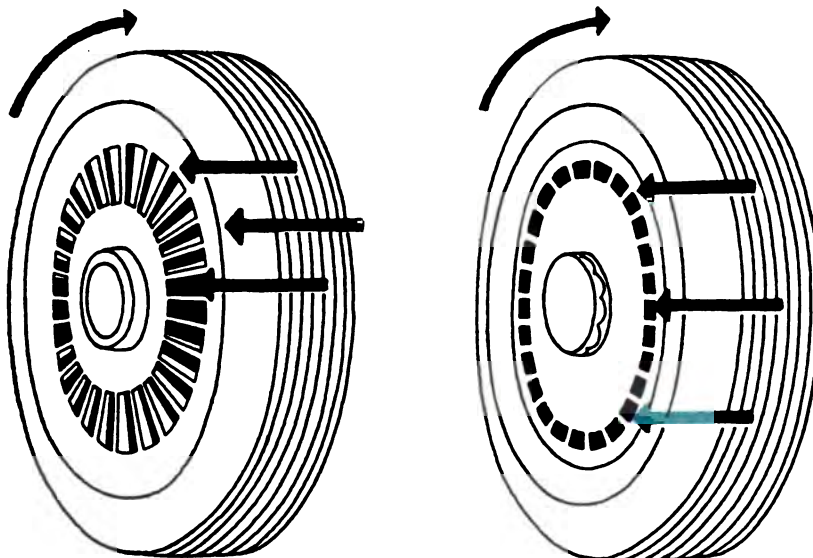
The problem of brake fade is being attacked from two directions. One approach is to get rid of the heat as quickly as possible. The other is to develop lining materials and brake designs which will operate satisfactorily at high temperatures.

Effective cooling of brake drums is relatively simple if sufficient air can reach them. On modern cars, however, drums are shielded by the front-end sheet metal and tires of large cross-section. There is little clearance between drum and wheel and the latter is frequently covered by a decorative disc.

The flared brake drum, introduced by Oldsmobile in 1958, is one method of improving air circulation. The flared section, resembling the mouth of a bell, extends from the inner flange of the drum. It scoops in air which passes the inner sidewalls of the front tires and directs it to the rest of the drum and the backing plate. The flared section also adds to the weight of the drum, increasing its heat storage capacity.

A different method is employed in the 1961 Cadillac. The wheel spider is reversed, moving the drum inward in relation to the wheel and placing it partially in the air stream created by the car's forward motion.

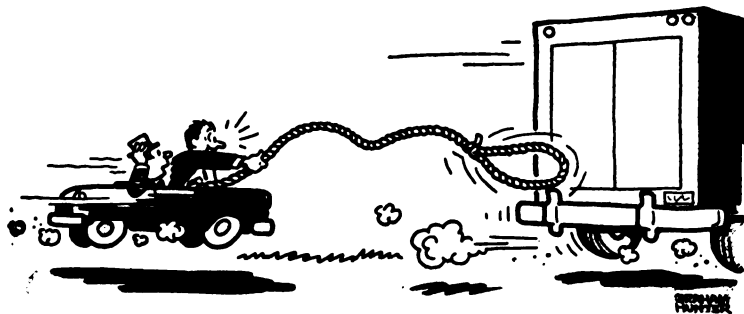
A 24- [CONTINUED ON PAGE 153]



Wheels designed for improved brake drum ventilation. Wheel spokes (left) are tilted toward direction of rotation to act as air scoops. In other design, simple ventilating slots are used

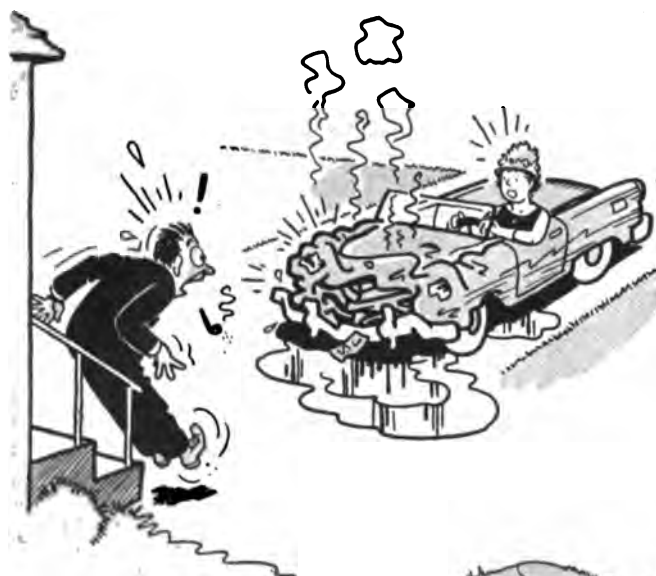
TOWNLINES

By Graham Hunter



"On long runs I'm able to reduce gas consumption considerably"

"No better time to show a man a new car than when he's completely relaxed!"



"Oh, for heaven's sake, Edgar, you look worse than the car does!!"



"First this tranquilizer; then we'll discuss all the things I found your car needs done to it"



"That ain't a fire—that's an overheated car. Call a garage!"

Tune-Ups Open Sales Door

They pave the way for this station to sell 350 to 400 spark plugs a month in addition to other parts and labor profits



SHOW . . First step at Bob Krejci's service station Phoenix, Ariz., is to let tune-up customer see 'scope pattern, then interpret it for her



COMPARE . . Krejci dramatizes his point by making comparison of the old plug with a new one

Although the Bob Krejci service station in Phoenix, Ariz., sells from 350 to 400 new spark plugs each month, not one in the past year and a half has been sold over the counter. Customers don't drive in and ask for a new set of plugs, nor is any indiscriminate attempt made by station personnel to sell them.

A plug sale at Krejci's station is the natural, and perhaps logical, outcome of a tune-up. What's more, spark plugs are far easier to sell *after* a tune-up check.

When Bob Krejci took over operation of the station some 18 months ago, gallonage averaged less than 12,000 a month. The former operator had tried, without too much success, to make a go of it without offering mechanical service.

"That was his big mistake, I feel," Krejci observes. "As soon as I took over, my first move was to buy new equipment. I bought an analyzer, an oscilloscope, distributor tester, brake-drum lathe, wheel balancer—plus all the necessary hand and power tools. With only two bays, I had to turn them both into stalls for mechanical work."

Because repair work draws more customers, gallonage is up today to about 32,000 a month and Krejci is averaging better than two minor tune-ups a day. Labor charge on minor tune-ups is pegged at \$6.95 for 6 cyl. engines, \$8.95 for V-8's. Parts sales range as high as \$12 to \$15 on a single job.

"With the proper equipment," Krejci explains, "it's no trouble to sell a set of new plugs to those tune-up customers who need them. We never recommend, incidentally, installing [CONTINUED ON PAGE 144



EXPLAIN . . Patience in telling why part must be replaced gains confidence of women customers



Make

Alert shop owners can boost TBA sales volume by catering to prime prospects—all vacation-bound car owners

Any service shop can climb aboard the profit bandwagon by adopting these timely merchandising ideas

By Peter Silveri
Managing Editor of MOTOR

Every shop that services automobiles can play a varsity position in the year-round TBA sales game. In fact, all it takes to participate in this multi-billion dollar contest is a basic inventory of tires, batteries, and accessories. Even if the shop operator decides to sit on the sidelines, he'll still manage to connect with some customers who drive in and ask for specific items.

But, if a repairman earnestly seeks to get into the thick of the selling fray, he can keep his cash register humming regularly. He will get the automatic sales and plenty more to boot! All he has to do is to watch for existing opportunities, then explore them.

One opportunity is at hand—summer. Warm weather is an open invitation for most motorists to slide behind the wheel of their car and head for the open road—a trip to the beach, mountains or just plain highway cruising. Whatever the destination, these people are prime prospects for certain items that are particularly salable right now. They are seasonal products that must be sold this and next month—or not at all.

Accessories with current high sales appeal are bug deflectors, grille screens, warm-weather seat cushions, car waste baskets and similar merchandise. What is crucial in a successful drive, all customers must be *exposed* to these products. And exposure means displaying them prominently, preferably at or near gas pumps.

These items warrant top display billing because it is the best way to produce impulse sales. As TBA

merchandisers know from years of experience, accessories are often bought on impulse, without the customer's having any idea at all of purchasing a product when he drives into a service shop. But a display can whet his appetite or remind him of a need. A nudge from an employee—who need only point out the display and ask the customer to buy—can trigger the sale.

One practical, inexpensive approach to displaying accessories is a pegboard. It can be used to exhibit a variety of products and can be moved about without too much effort. Some operators prefer to place

Check List of TBA Items Customers Will Buy

- | | |
|--|--|
| <input type="checkbox"/> Grille screens | <input type="checkbox"/> Fan belts |
| <input type="checkbox"/> Car waste baskets | <input type="checkbox"/> Car wax |
| <input type="checkbox"/> Seat cushions | <input type="checkbox"/> Car polish |
| <input type="checkbox"/> Seat covers | <input type="checkbox"/> Sponges |
| <input type="checkbox"/> Bug deflectors | <input type="checkbox"/> Wiper arms, blades |
| <input type="checkbox"/> Vacuum bottles | <input type="checkbox"/> Tires |
| <input type="checkbox"/> Air cleaners | <input type="checkbox"/> Tissue dispensers |
| <input type="checkbox"/> Flashlights | <input type="checkbox"/> Gasoline caps |
| <input type="checkbox"/> Batteries | <input type="checkbox"/> Gasoline cans |
| <input type="checkbox"/> Radiator caps | <input type="checkbox"/> Thermostats |
| <input type="checkbox"/> Floor mats | <input type="checkbox"/> Upholstery cleaners |
| <input type="checkbox"/> Touch-up paints | <input type="checkbox"/> Compasses |
| <input type="checkbox"/> Outside mirrors | <input type="checkbox"/> Car bulbs |

Summer a TBA Bonanza!

pegboard displays near their pumps; others position them inside the office or in the service area.

Perhaps *the* pivot man in any successful TBA push is the man at the pump. To sell anything from trinkets to life insurance requires personal contact. And, if TBA items are to be sold on a regular basis, the employe must initiate the action.

More than anything, common sense alone dictates the type of action. For example, if a customer's radiator is clogged with insects, an alert employe would ask him to buy a bug deflector. If it is noticed that the customer's shirt is soaked with perspiration, ask him to buy a seat cushion. If the customer is headed for the beach, ask him to buy seat covers to protect his upholstery. If he's going on a picnic, suggest a car waste basket or a vacuum bottle.

Know the need, then sell the appropriate product. It's half the battle.

Because the automobile looms so important to the owner during the summer months, don't neglect

other TBA merchandise. Remember, a smooth-operating, safe car is indispensable. Customers want—and will pay for—trouble-free motoring.

So be sure to check fan belts, radiator caps, battery cables, and so forth. If an item is in dubious condition, bring it to the customer's attention.

Tires, of course, are critical this time of year. Most people will be driving greater distances at higher speeds. A borderline tire, which might survive slow-speed stop-and-go town driving, won't make it on the open road.

A good service for regular customers who are setting out on a trip is to check tire inflation. It takes a few minutes, true, but it's a good-will gesture and an opportunity to get a closer look at the customer's tires. He'll appreciate the gesture if he's told why the check is important to his pocket book and his safety. Proper inflation adds to tire life. Too little air causes abnormal deflection and tread wear in the shoulder area of the tires.

[CONTINUED ON PAGE 169]

Capital Close-Ups

By Bert Mills

Washington Editor of *MOTOR*



Abbott Heads NADA

Texan Thomas F. Abbott, Jr., a Pontiac-Rambler dealer in Fort Worth, is the new president of the National Automobile Dealers Assn. He succeeds the late Walter B. Cooper, of Fort Collins, Col. Moving into the spot vacated by the elevation of Abbott from first vice president is John H. Lander, a Dodge dealer in Atlanta who was NADA treasurer two years ago.

President Abbott is well known in NADA circles, having been a member since 1939 and a director since 1952. He is a former regional vice president and chairman of the National Affairs Committee. He is president of the Texas Highway Safety Council, a former Regent of Texas Tech, and a past president of his state and local dealer associations.

FBI Issues New Booklet

Alert gas station attendants who tell the FBI about suspicious looking cars or drivers are often credited

with helping catch wanted law-breakers. To encourage more help from the men at the pumps, FBI has published a 10-page booklet, "How Service Stations Can Help Law Enforcement." Since on the average day the G-Men are looking for 89,000 fugitives, they can use all the volunteer help they can get.

While Justice Dept. officials do not intend to convert station employes into undercover agents, they point to the record which shows that even major Federal offenses like kidnapping have been solved through tips from cooperative service station workers.

Pension Bill Progresses

Two automotive groups are among the nearly 70 associations backing a House-passed bill to grant tax relief to the self-employed. NADA and Automotive Affiliated Representatives are listed as backing the measure, H.R. 10, which seeks to extend the same tax benefits to the entrepreneur as to corporate employes whose pension con- [CONTINUED ON PAGE 156]

HOW TO RATE NO. 1 WITH CAR BUYERS

A dealer can be the most popular retailer in town, says this veteran, if he takes a little extra care with these fine points of customer relations

By Martin H. Bury

President, Wilkie Buick Co., Philadelphia

The great merchant, John Wanamaker, once wrote, "Times as well as winds change, and business ways must be improved or everything gets on the downgrade."

Admittedly, there has been little for dealers to shout about in recent years. Even those with "hot" cars to sell have retained a pitifully small portion of their sales volume as net profit. But, still and all, there are a few dealers who stand out like diamonds in a tray of zircons. Why?

There are many reasons. Heavy advertising or cut prices are not among them. Yet these dealers attract, sell and hold customers. Since customers are the key to the dealer situation, let's analyze them briefly.

Automobile sales or service customers are both impressionable and fickle. They approach the average dealership with their guard up. They hope for the best but expect the worst. They have poor memories where price concessions or free service is concerned,

but their memories are remarkably retentive in connection with service complaints or broken promises.

The dealer's customers are seldom neutral about him, as they might be about a department store or an airline or a gasoline station. They are impressed favorably or unfavorably by dozens of little things that too many dealers are prone to forget or neglect.

These customers are sensitive because they patronize the dealer in connection with the purchase of or service to their second-most-important possession. And they become doubly sensitive when they are accorded only the treatment they might expect if they were buying an electric percolator or having it repaired.

The average customer will leave the average dealer to do business with another dealer on the slightest provocation. But the average customer who patronizes one of the outstanding dealers is not only loyal to that dealer, but also subconsciously advertises that fact and the reasons for it.

Let's face it! Our customers are like that—impressionable, sensitive, fickle and on guard against us. But we want (and need!) their business. So we court them and romance them. We paint a rosy picture. We sometimes make extravagant promises. And after the sale, (of a car or of service) if the romancing doesn't continue and if the realization is considerably less than rosy, the relationship terminates in separation, or commercial divorce.

Continuing Courtship

For the purposes of this article, let's assume that the new and used cars have been honestly represented and properly conditioned, and that the service is fundamentally as good as or better than average. The customer has been courted and won—won by the impression the salesman or service counselor made upon him. It is a part of our calling as dealers that we must continue to impress him. How?

Well, first among the impressionable items is cleanliness—of facilities, of personnel, of the *customer's automobile*. Most people find dirt repulsive. (The few who don't do not find cleanliness repulsive.) Instinctively they shy away from dirt. Since

Little Things Mean a Lot



Martin H. Bury

The brisk greeting of a salesman, the attentiveness of a service manager, the cashier's smile given when a bill is paid—these are some of the little things that win friends and hold customers for car dealers.

Preoccupied with the large-scale problems of competition and inventory, a dealer sometimes forgets or neglects the finer points that leave favorable impressions with customers.

This oversight can be costly, writes veteran dealer and author Martin Bury, who describes some successful practices in building good will.



Fact of the matter is, dealers must engage in a never-ending campaign to attract, sell and hold customers

they respond to the attractive or at least try to avoid being repelled, cleanliness is an important point.

Then there is attitude—of the salesman, service counselor, or the dealer who steps briskly and promptly toward each person who enters the premises, the cashier who never fails to smile pleasantly when a bill is rendered or paid, the car attendant who brings the car around promptly and carefully without the appearance of expecting a tip.

And porters! Especially those who freshen up the cars on display. If they do so with zeal and a minimum of rags, dusters and equipment, they make a far better impression than if they appear to be tired, imbued with slow motion and have cleaning equipment scattered all over the place.

Next there's appearance and attire of workers. The best salesmen wear conservative clothing, nothing to distract the customer's attention. And the public expects no less. But where most of us fail is in our service reception area. Service counselors should wear uniform blue or oxford gray trousers with a waist-jacket to match, along with a white shirt and a necktie. Each counselor should have his name on the breast pocket of his jacket.

Car attendants and porters should be uniformly attired in dark olive-green with white or light gray

shirts, an overseas cap, and clean white cotton gloves. (In my establishment, the car attendants sometimes soil three pairs of gloves a day.) Their shoes should be polished, their uniforms pressed. Like the ushers in New York's Radio City Music Hall, these men should be lined up for inspection each day, by the service manager or other official designated for this purpose.

Sounds like a lot of bother? Remember that the objective is to make a good impression on the most valuable asset the dealer has—his customers.

No Place for Huddles

Bull sessions, griping sessions and huddles should be confined to the locker rooms. They should be forbidden any place else—especially in the salesroom, where too many salesmen have a habit of lolling at their comfortable but uninspiring ease.

Salesrooms are market places. The commodities marketed there range in price from \$2,000 to \$10,000 or more—a substantial purchase amount for the average buyer. It follows that salesrooms should reflect the value of the product and its importance to the customer—not only in how the product is displayed, but in the attitudes of the [CONTINUED ON PAGE 162]



"A dissatisfied customer, eh?" Wes asked. "More than dissatisfied—hysterical," Adelaide replied

It Pays to Please Patrons

Cap Moran shows it costs less to keep old customers happy than it does to attract new ones

"I've got to go to lunch," said Adelaide Hunt, the efficient but thoroughly feminine secretary-bookkeeper of Moran Motors, Inc., to Wes Moore, the unsmiling sales manager. "Will you tell Mr. Moran that Hezekiah Bottomley wants him to call as soon as he can?"

"Of course," said Wes, "Cap knows who Hezekiah is."

"Naturally. Don't you?"

"He's a feed dealer."

"Good," said Adelaide, "but you may be sorry you ever heard of him."

"A dissatisfied customer, eh?"

"More than dissatisfied—hysterical."

"It doesn't take much to set them off any more," said Wes. "Car buyers always cut their fuse short before they talk to a dealer. What's Hezekiah's particular gripe? Did he find that another dealer would

have allowed him 98 cents more on the trade-in?"

"No. It seems that we charged him \$35 for undercoating."

"What's wrong with that? Most places charge \$40."

"The trouble," said Adelaide, "is that we didn't do the undercoating."

"We're all allowed one boner."

"But remember what Mr. Moran said once. 'Let's imagine we're all parachute jumpers and can't afford even one mistake.'"

"If I tried to remember everything Cap said, I'd have to be an electronic brain."

"Which you obviously aren't," said Adelaide. "But you will remember to tell Mr. Moran to call Mr. Bottomley, won't you?"

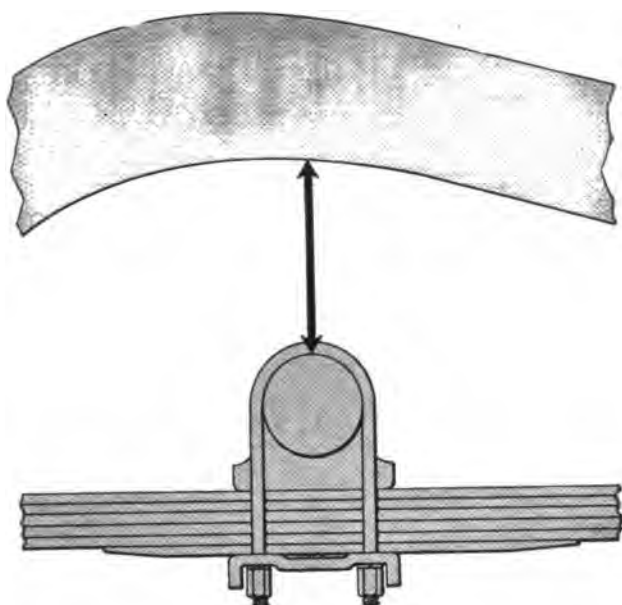
Wes nodded and Adelaide left. Cap, returning from a visit to the bank, came in about five minutes later.

"A character by the name of Hezekiah Bottomley wants you to call him," Wes told him.

"That 'character,'" said Cap, "happens to be a prize catch. He's been buying from our toughest competitor for 30 years. But Clint Harlow finally hooked him."

"Clint needn't have kept it [CONTINUED ON PAGE 165]

Put Spring Back in Leaf Springs



To check for sagged springs, the riding height is measured from the axle housing to the bottom of the side rail behind the bumper bracket

By Thomas V. Glover

Service Editor of *MOTOR*

Leaf springs can and often do take a beating during the summer months. This is particularly true when vacation-bound motorists pack the family, luggage and sundry equipment into the car and drive on rough-riding country roads or sandy beaches.

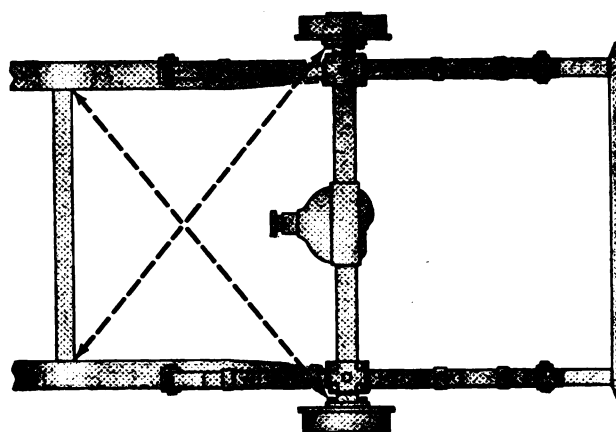
The combination of rough terrain and added load can put a strain on leaf springs, shackles and bushings. It can also lead the customer to the nearest repairshop with a complaint of squeaks or crunching noises. Fortunately for the repairman, it is a simple matter to pinpoint and correct leaf spring troubles.

Broken leaves are virtually a rarity. More often than not, the cure for a troublesome leaf spring is a new leaf interliner, clips or bushings.

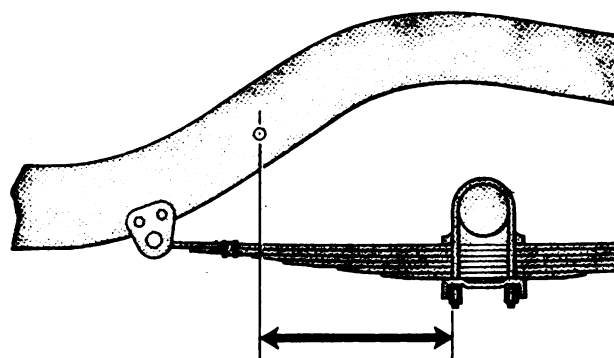
Interliner squeaks can be caused by mud or sand particles between the liners and leaves, or brittling and wearing out of the liners. This is usually indicated by frayed edges of liners protruding from between the leaves. The interliner should be replaced, if this condition is found.

The rear spring interliners used on Ford Motor Co. and Chrysler Corp. passenger cars are the insert type located at the ends of the leaves. The inserts can be installed without removing the spring from the car. On Studebaker and Rambler American springs, full-length interliners are used, and thus spring re-

Some facts to help you pinpoint and correct the causes of rear suspension troubles



Check rear axle misalignment by measuring from backing plate to opposite side rail. Distances and reference points must be same for both sides



Alternate misalignment check. Measure from U-bolt to rail reference point. Distance between left and right checks should not exceed $\frac{1}{8}$ in.

moval and disassembly are required for replacement.

On the Ford and Chrysler springs, liners are replaced by removing the rebound or alignment clips and spreading the leaves with a thin-bladed chisel. The liners can then be inserted between the leaves after the old liners have been removed.

The leaf surfaces in contact with interliners should be free of rust and corrosion and the liners, which in most cases are impregnated with wax or chemicals, inserted without lubricants or grease. If required, spring surfaces should be cleaned with a piece of sandpaper.

[CONTINUED ON PAGE 170]



1 Impact at left front corner of this 1961 model damaged sheet metal, twisted frame and cowl



2 After retaining bolts have been removed, front end sheet metal is lifted off as an assembly

QUICK FRONT END AND

Straightening and installing new sheet metal can achieve like-new results when right equipment and step-saving procedures are used



5 After final alignment of cowl and adjustment of door openings, dimensions are checked



6 Cowl alignment is maintained with a hydraulic jack while the broken welds are reinforced



7 Three sections of fender assembly are temporarily installed to establish fit, then welded



3 Chain pull is exerted while controlled heat is applied to straighten twisted front of frame

COWL REPAIR



4 While jack and turnbuckle push and pull, the cowl is straightened with a hammer and dolly



8 Inside area of removed fender is painted. This saves masking engine and produces cleaner job



9 The fender assembly is then installed on the car and aligned to a perfect fit with new hood



10 Remainder of sheet metal is positioned and the headlamp installed as the final assembly begins





Checking timing on truck, in Smith and Kerber shop, Broomall, Pa.

TRUCKS PAY SHOP EXTRA

Only 25 per cent of vehicles serviced are commercial jobs, but they account for 40 per cent of total dollar volume

When it comes to servicing trucks, some repair-shops have a take-it-or-leave-it attitude. Others beat the drums loudly and constantly to attract truck owners to their shops.

Falling into the latter group is Smith and Kerber service station, Broomall, Pa., which has found truck servicing profitable and quite painless.

"We would rather work on trucks any day than on passenger cars," says I. Newton Kerber, station partner. "For one thing, they're easier to work on. Moreover, we are doing business with people who know what they want and are service-conscious rather than price-conscious. Then, too, trucks have fewer come-backs than cars, and there are fewer things in the way of rattles and shakes to contend with.

"As long as we give prompt service to a trucker, finish the job when it is supposed to be finished, we have made a customer who will turn to us for future work."

In adding his praise for truck work, partner James L. Smith says they have no trouble collecting on a truck job when it is completed. A trucker loses money when his vehicle is tied up, and getting prompt service is especially appreciated by him.

As an example of this, Smith points to one truck owner who left \$200 with him to cover the cost of the service needed to put his vehicle back into operation. He told Smith to apply the difference to subsequent jobs when the truck was brought back.

Smith and Kerber's fondness for truck business can be readily seen in the fol- [CONTINUED ON PAGE 153]



Truck's brakes are adjusted. All 10 mechanics work on both commercial vehicles and cars

Ads Sell Salesmen to Car Buyers

A unique series of newspaper ads, aimed at raising the status of car salesmen, has been tried with outstanding success by Hoehn Chevrolet Co., Memphis, Tenn. These institutional-type ads, 5¼ by 5½ in., did not replace but rather complemented Hoehn's regular hard-sell ads.

Typical in the ad series was a cut of salesman Wally Wallace perched on an old hay rake. Carrying the headline, "Farm Boy Makes Good," the copy noted that Wally had been in the car business over 25 years and customers liked his grassroots approach.

Commenting on the campaign, G. M. Hoagland, Hoehn vice president, says, "We conceived of it as a way of saying, indirectly, that we are proud of our men, that we want the public to know them as we do—as hard-working family men, with experience, ideas and enthusiasm, as men whose friendship is valuable and whose counsel is trustworthy. We hoped the public would feel, on reading them, that a company that respects its men as worthy individuals treats its customers the same way."

Results of the campaign were gratifying. Salesmen reaped compliments. One man received 17 phone calls the day his ad ran.

Farm Boy Makes Good



"I'm just an old Arkansas farm boy," says Wally Wallace. "And you can take the boy out of the country, but you can't take the country out of the boy." But when you pin him down, Wally admits that country boys sell plenty of cars to city slickers. "You hardly ever meet a real city slicker nowadays, anyway," he adds. "Guess we're all country boys at heart." Pretty earthy talk for a man who's been in the auto business, both services and sales, for over 25 years. That's what scores of Hoehn customers like most about Wally Wallace . . . his grassroots approach and complete sincerity.



The Mid-South's Largest Chevrolet Dealer
SALES • SERVICE • PARTS
367 Union Ave. 2600 Summer Ave.

Typical ad in series

As Engineers See It



Longer Life for Valves

Many factors in addition to the quality of the valve itself influence its longevity. Even the best valve won't live long in an engine that is poorly designed, manufactured or maintained, according to Eaton Manufacturing Co. engineers, T. N. Tunnecliffe and L. F. Jenkins, who presented their paper, "Why Valves Succeed," at the SAE National Transportation Meeting.

From the standpoint of engine design, factors affecting valve motion are especially critical. Cam and

valve gear must provide smooth opening and closing, without abrupt changes in velocity. Heat balance must be maintained by getting rid of heat through the stem and seat as fast as it enters through the head and throat. Adequate lubrication is important to minimize wear.

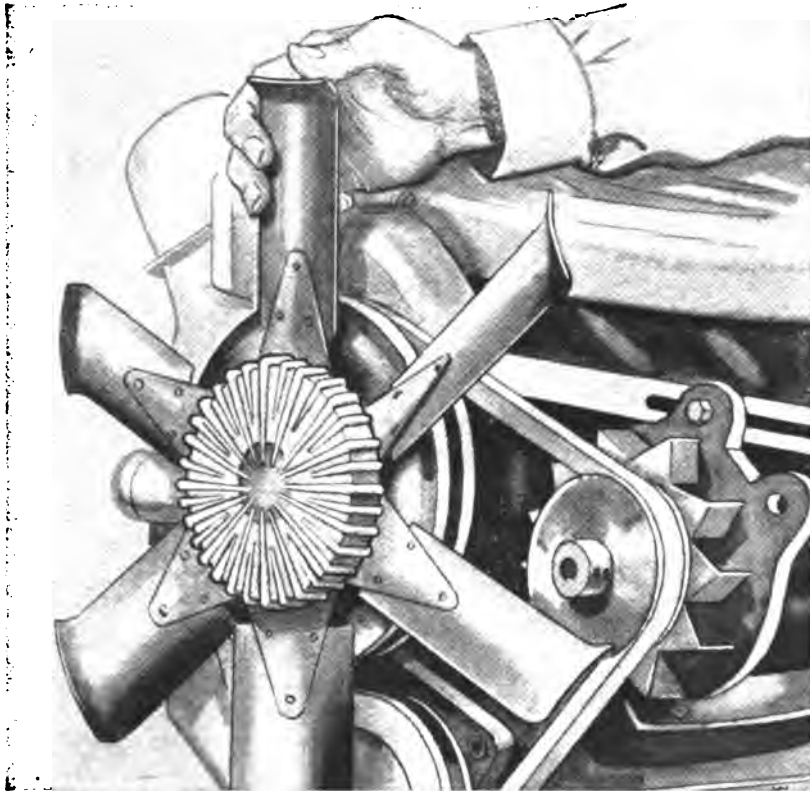
The valve must also be able to live in the presence of materials which are extremely corrosive at high temperatures. Lead, manganese and bromine compounds are found in modern gasolines, while sulphur and vanadium are present in most Diesel fuels. A valve which operates successfully in one application may be short-lived in another.

Careful manufacture and assembly of the engine is vital. Water passages must be properly cored before casting to assure uniform temperature control. Cams must be ground accurately to guarantee that valves open and close the way the designer intended.

The repairshop can do its part to provide maximum life by maintaining correct valve lash, carburetor adjustment and ignition timing. Proper servicing of oil and air filters will keep out most of the dirt which shortens the life of valves and other engine parts. An adequate supply of clean, high-quality oil at all times provides maximum protection against wear. Prompt replacement of unserviceable parts prevents serious engine damage.

Speedier Variable-Speed

These procedures will help you correct overheating and noise on an increasingly popular unit



Fan drive is checked by hand. With normal unit, fan can be turned without moving the pulley by applying a light finger pressure

A repairshop operator doesn't need a crystal ball or a seer to tell him that he'll be encountering numerous overheating complaints this and next month. He knows, too, how to go about finding the fault and correcting it. He might have trouble, however, if he isn't familiar with variable-speed fans—a unit found on an ever-increasing number of cars.

Fluid-coupling type fan drives are not only used on most 1961 vehicles equipped with air conditioners, they are also standard on some models without coolers. At low engine speeds, the coupling transmits the driving force required to give the fan speed necessary for cooling. At high engine speeds, the coupling slips and the fan speed is limited to save power and reduce fan noise.

If the coupling is not effective at low engine speeds, overheating can result. Should it lock up at high

engine speeds, fan noise will occur. Knowing how to check fan operation quickly and to make necessary adjustments can save time and put more dollars in the till.

The two members of the fan-drive coupling are a rotor, driven by a shaft attached to the water-pump flange, and a housing which encloses the rotor. The fan blades are bolted to the housing, which is mounted on the rotor shaft through permanently sealed bearings.

The housing is partially filled with a silicone fluid. The shear resistance of this fluid provides an effective coupling between the rotor and housing at low speeds. At high speeds, when the air resistance to the turning of the fan greatly increases, slippage occurs. On some models a thermostatic control permits more fluid to enter the housing, increasing top fan speed, when underhood temperature is high.

In most cases, fan operation can be checked with a timing light and tachometer. The speed of the fan and crankshaft pulley is the same when both appear to be stopped by the timing light. Although a defective coupling must be replaced as an assembly, adjustments can be made on some units. Test and service

recommendations on the individual car makes are as follows:

AMERICAN MOTORS—Rambler, 1959-61. Timing light should appear to stop crankshaft pulley and fan at 2,500-2,700 engine rpm. At higher rpm's, slippage causes fan to slow down relative to engine speed.

CHRYSLER CORP.—Chrysler 1957-59. Timing light should appear to stop fan and crankshaft pulley at 1,400 rpm or higher. If both stop at lower speed, fan is operating below minimum speed. This can cause overheating and therefore the drive should be replaced. Do not remove filler plug or add fluid to drive unit.

Excessive fan noise can occur if unit locks up from bearing failure or internal bind. Normally, the fan

Fan Service

By William J. Moreland

Technical Editor of MOTOR

can be turned relative to the pump pulley with only light finger pressure, the effort decreasing after several revolutions of the fan. If the drive is locked up, replace it.

On 1960 Chryslers, use above procedure. Timing light check should stop crankshaft pulley and fan at 2,000 rpm or higher on PC-1,2,3, PY-1 models; at 1,665 rpm or higher on PS-3 model.

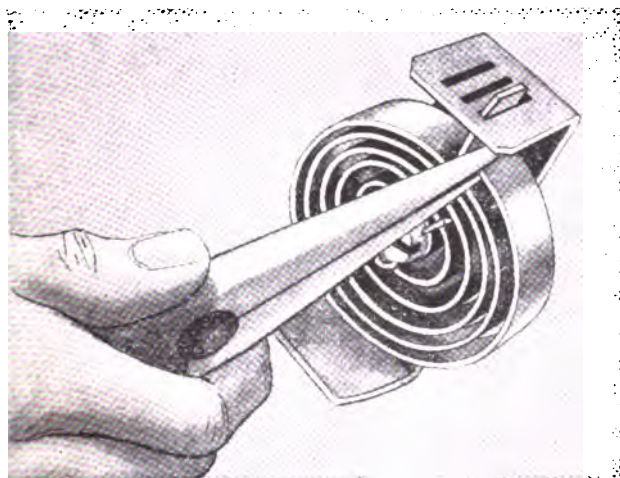
For 1961 Chryslers, fan should appear to be stopped at not less than 1,600 rpm or more than 1,850 rpm on RC-3 and RY-1 models. On RC-1 and RC-2 models, minimum is 1,550 rpm and maximum 1,800 rpm.

On 1959 De Soto, use same procedure as '59 Chrysler. Minimum fan speed 2,200 rpm. The 1960 De Soto is same as 1960 Chrysler, and 1961 models are identical to 1961 Chrysler RC-1.

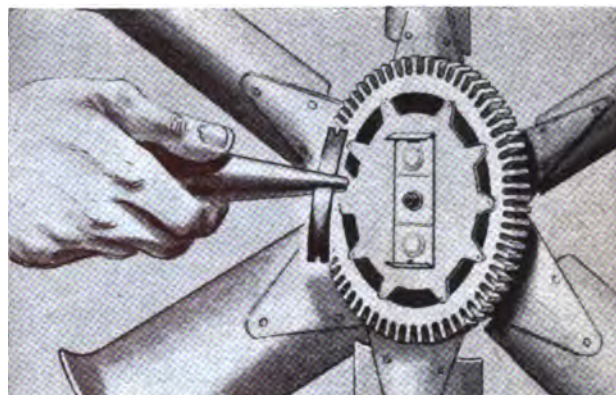
For 1960 Dodge, procedure is same as 1960 Chrysler PS-3; 1961 models are same as 1961 Chrysler RC-1.

Plymouth 1960, procedure is same as 1960 Chrysler PS-3. On 1961 models, same as 1961 Chrysler RC-1.

FORD MOTOR CO.—Ford 1961. Thermostatic control permits more fluid to enter housing to increase fan speed at high temperatures. A quick check can be made by rotating fan by hand. At low temperature the fan should rotate separately from the pulley. At high temperatures there should be an added resistance to turning as more fluid enters the housing.



Shift point of fan speed on cars equipped with thermostatic coil is adjusted by moving the tab to another slot in the bracket



Bimetal strip is removed on 1961 Ford and Mercury fans. This permits the plunger behind the strip to be removed for cleaning

If overheating or excessive fan noise occurs, check for sticking of rod actuated by bimetal strip on front of fan. To correct sticking, remove upper half of fan shroud from radiator. Carefully push one end of bimetal strip downward with screwdriver to clear bracket. Then force the strip outward, away from the center to spring it out of the bracket. Clean the clutch unit with a rag dipped in solvent and then pull the actuating rod out of its bore in the center of the unit. Clean the bore with a piece of rolled crocus cloth. Clean the rod in a varnish or shellac-removing solvent, or with crocus.

Replace Assembly

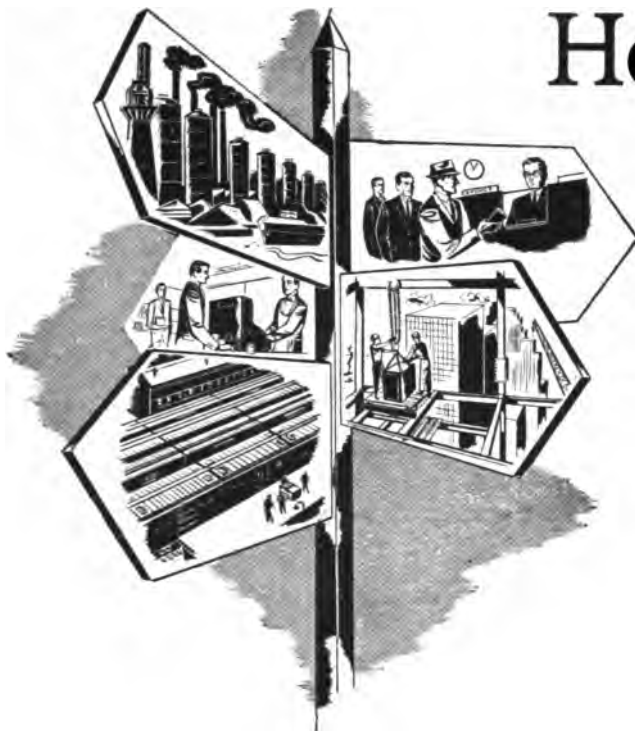
If the bimetal strip is kinked or bent, the assembly must be replaced. If the rod is damaged, replace it. Measure the length of the old rod with a micrometer. Adjust the Allen screw in the replacement rod to obtain the same over-all length. Install the bimetal strip with the marking B1 downward toward the clutch unit. Insert one end in the bracket, force the center of the strip outward carefully, and spring the opposite end into the bracket.

On 1960 Lincoln, use test procedure given for 1957-59 Chrysler. Engine speed at which fan and crankshaft pulley should appear to be stopped is 2,700 rpm.

For 1957 Mercury, thermostat inside the water pump moves a plunger rod through the center of the pump shaft to actuate a clutch in the fan housing. The clutch is actuated at approximately 200 deg. and transmits enough torque to drive the fan at speeds up to approximately 2,600 rpm.

To check the operation of the fan, if overheating occurs, tie a piece of light string from the tip of a fan blade to the battery support to keep the fan from rotating. Then start the engine. When engine temperature is high enough to actuate the fan clutch, the light string should break if the unit is functioning properly. Stop the engine immediately and turn the fan by hand. The assembly should be engaged to a point where it will not [CONTINUED ON PAGE 142]





How's Business?

MOTOR'S Monthly Summary

All Signs Point Upward

Continuing business improvement along all major fronts has brought forth an outburst of optimism from government officials, economists and business men. Current evidence confirms that a broadly based upturn is already in progress.

Personal income, which is running at an annual rate of \$413,700,000,000, is swinging up. By year's end, some economists forecast, income should increase to a \$425,000,000,000 rate. While construction spending is moving along at an annual rate of \$56,700,000,000, it is predicted that total 1961 outlays will top \$57,000,000,000, an all-time high.

Freight carloadings, which to date have lagged, show fresh signs of recovery. In fact, railroad officials expect rail freight volume to increase noticeably in the coming months. And while steel and brass output slackened early last month in what is described as the traditional summer lull, observers confidently predict the lull will end sooner than usual—perhaps by the end of July or early August.

Even the pesky employment picture has taken on a brighter hue. Government experts have stated that although 6.9 per cent of the labor force is currently unemployed, this percentage will drop below 6 per cent by the end of 1961.

PRODUCTION...Steel output, which for months moved along at a sprinter's pace, began to slacken last month. Brass mills have slowed down, too, but this is attributed to the usual summer slump. It appears, however, that the summer lull in steel and brass output will end earlier than customary—the end of this month instead of late August or early September.

CONSTRUCTION...For the third consecutive month construction spending rose in May, hitting an annual rate of nearly \$56,700,000,000. Public construction spending is responsible for the rise. Private building outlays are still on the sluggish side.

INVENTORIES...After almost a year of cutting back, manufacturers are beginning to build inventories. These efforts reflect improved incoming orders from their customers and stepped-up production in many industries.

CARLOADINGS...Rail freight volume, trailing last year by about 14 per cent, shows signs of turning upward. Railroad men optimistically predict that freight volume for the entire year will come within 2 per cent of 1960's volume. Meanwhile, intercity truck tonnage has steadily climbed to levels approaching last year's pace.

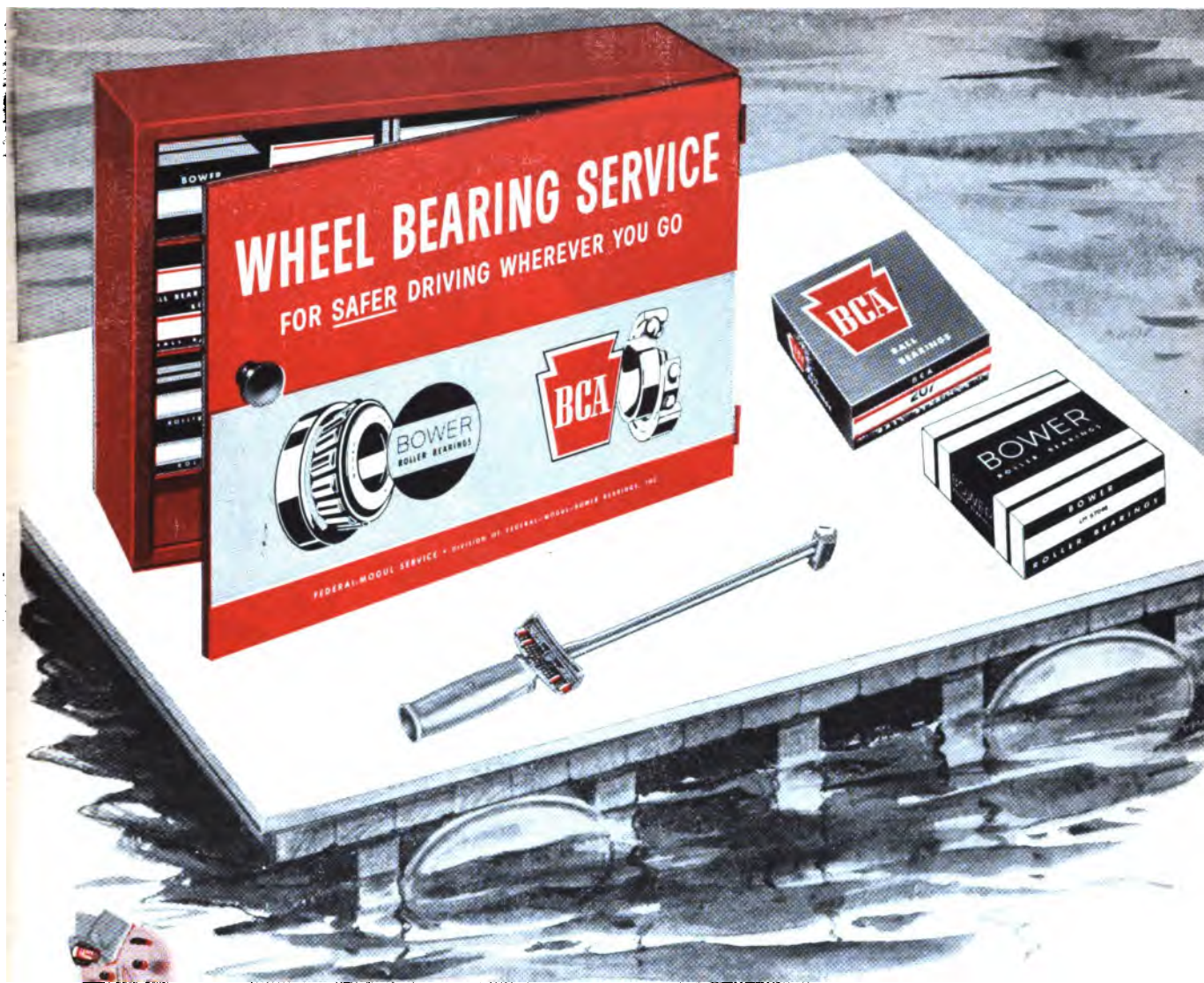
RETAIL SALES...After tightening up on their purse strings in April, consumers have expanded their spending. Major retailers throughout the country have reported gains during May and June.

CREDIT...Interest rates will swing up, Federal Reserve Board predicts, if business keeps getting better. Should expanding business create heavy credit demands, rates will be pushed up. So far, however, demand has not exceeded supply and rates have been holding steady.

PERSONAL INCOME...Disposable income of all persons in the country was estimated at an annual rate of \$357,200,000,000 at the end of the first quarter. Due to rising employment and longer work weeks, it seems certain that the rate rose sharply for this year's second quarter.

EMPLOYMENT...The jobless total fell by almost 194,000 to 4,768,000 in the period ending May 15. The decline was described as "about seasonal." It is estimated that 6.9 per cent of the labor force was idle. But, government officials predict, unemployment will drop below 6 per cent of the labor force by the year's end.

PRICES...Index of wholesale prices in primary markets has held fairly firm at 119 per cent of the 1947-49 base. Consumer price index, on the other hand, shows signs of creeping upward this month. Expected increase will result from gains in fruit and vegetable prices.



Service Sam shows you . . .

How to float a sale with a raft of bearings!

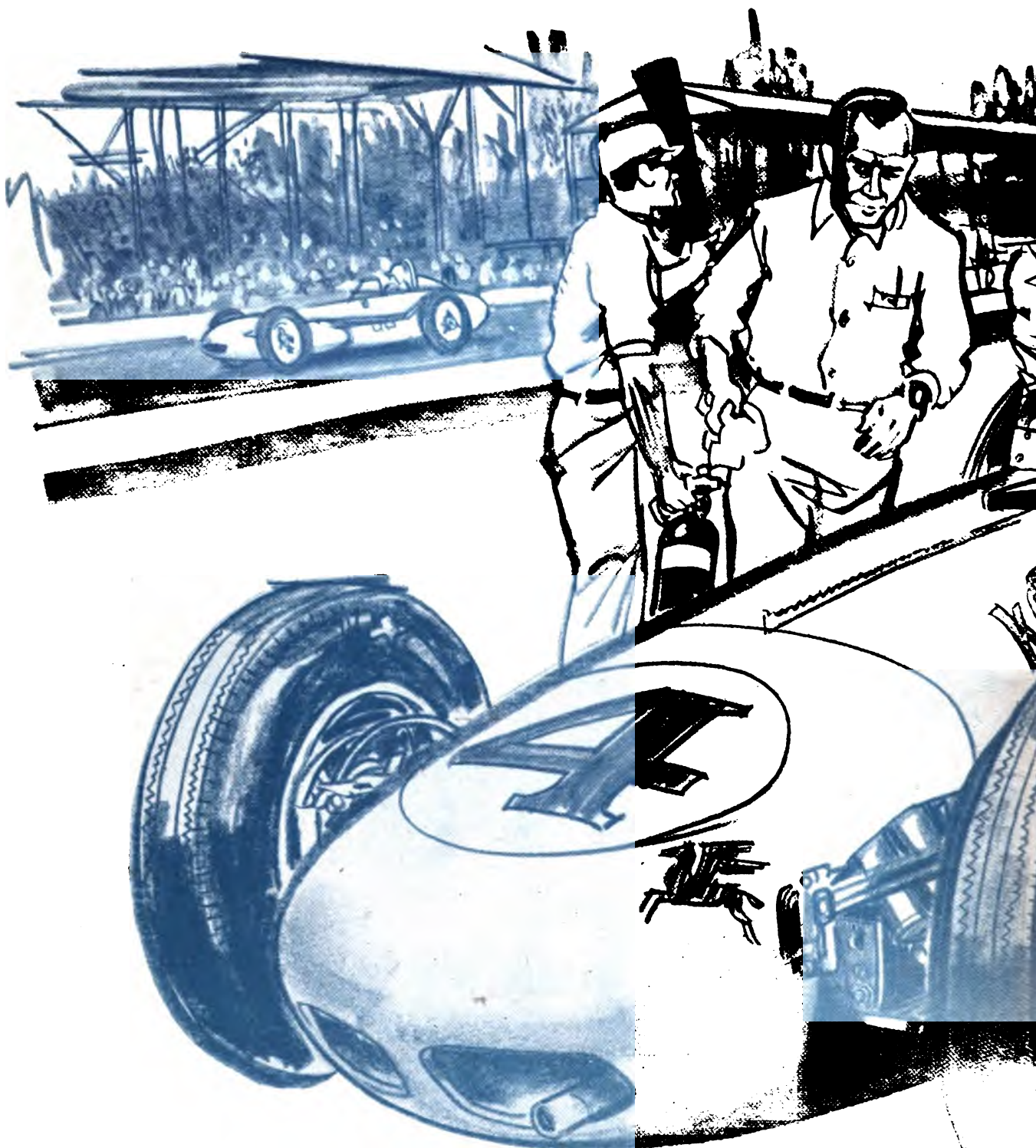
If you're interested in getting in on the big profits in wheel bearings, look into the Bower-BCA wheel bearing package. You get a key assortment of the fastest selling ball and roller bearings plus a chrome-plated torque wrench, window posters, decals, application sheets, and price card all in one package.

It's everything to get into the profitable wheel bearing service business. Encourage wheel repacking the same time you sell a lube job—check every wheel bearing. You'll be pleased with the plus business and the customers will be pleased. Investigate this new money-maker. Call your nearby Bower-BCA jobber today.

FEDERAL-MOGUL SERVICE

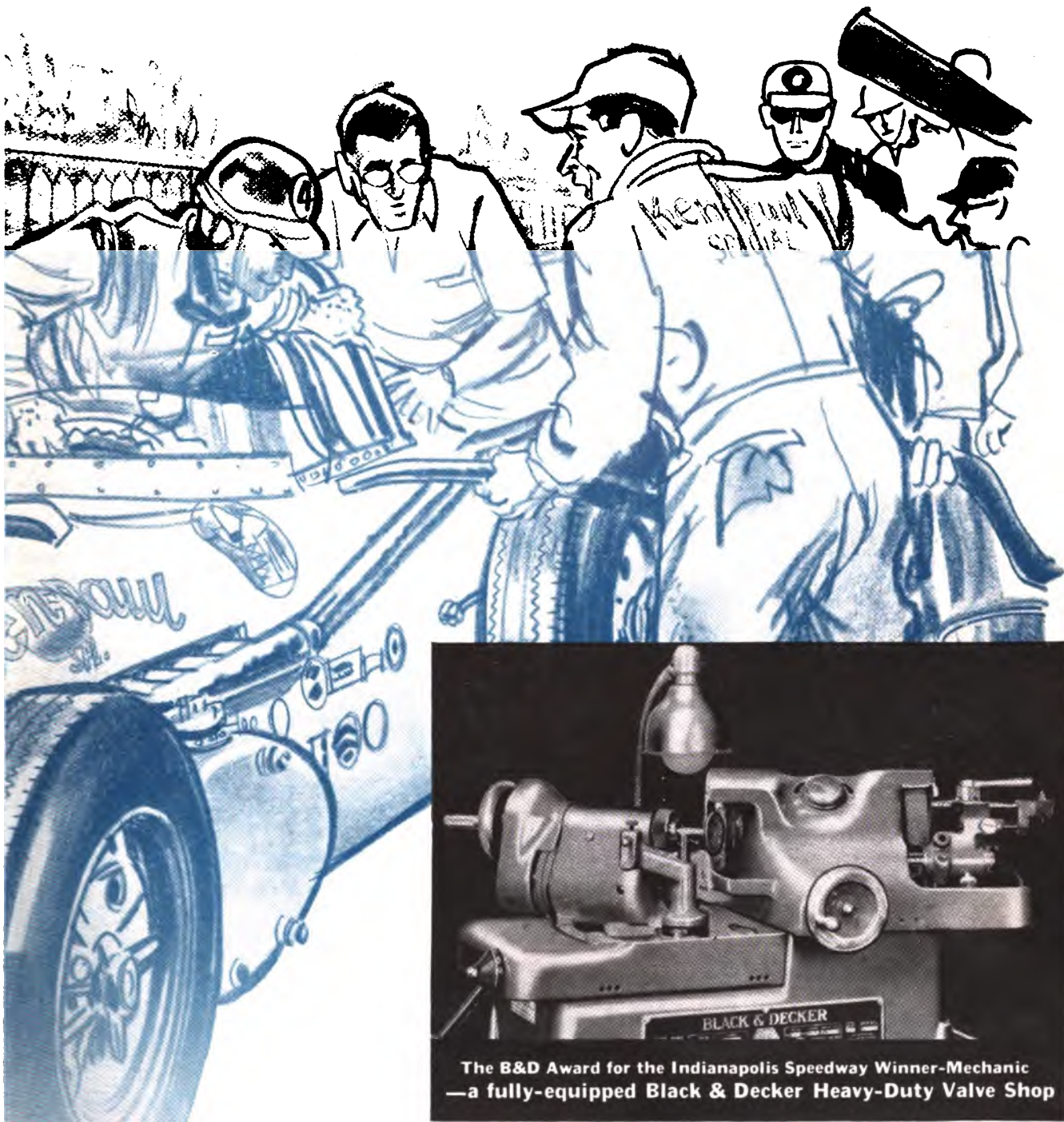
DIVISION OF FEDERAL-MOGUL-BOWER BEARINGS, INC. • DETROIT 13, MICHIGAN





Indianapolis winner-mechanics

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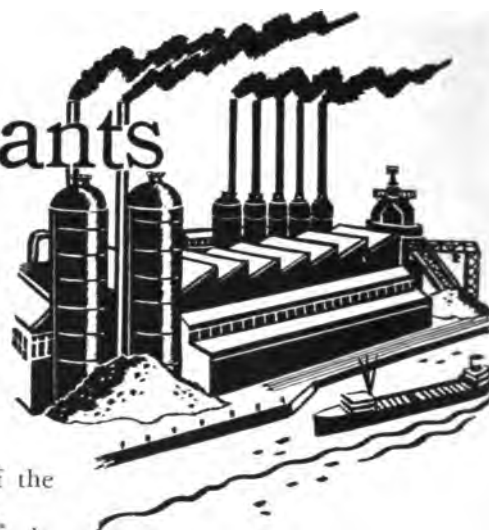
1960:
Chick Hirashima



1961:
George Blum

Factory Service Slants

Detroit experts keep you up-to-date on latest repair changes and procedures



BUICK SPECIAL

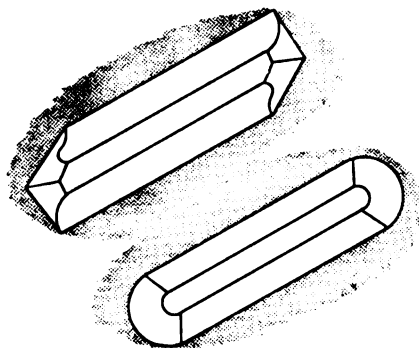
Adjusts Axle Shaft

Axle shaft end play can be checked, with the wheel and brake drum removed, by measuring the difference in the distance between the housing and the axle shaft flange while moving the axle shaft in and out by hand. End play up to .042 in. is normal.

Do not insert a shim inboard of the bearing in the housing to remove all end play. This would ignore the end play of the bearing itself and could cause improper seating of the gasket or backing plate against the housing.

MERCURY

New Transmission Gears



New tooth design (top) has straight faces on points. Original gear tooth design (bottom) had radius on ends

New transmission gears are now available for replacement on 1960 standard transmissions. The tooth-pointing angles have straight faces on the points in the new design. Original design gears

had a radius on the ends of the teeth.

With this difference in tooth-end design, old and new types cannot be intermixed. Tooth design must be the same on the low and reverse sliding gear, the mating gear on the cluster, and the reverse idler gear.

CHRYSLER

Torques U-Bolts

Excessive tightening of rear spring U-bolts can distort the rear axle housing and damage axle shaft bearings.

The torque on rear spring U-bolt nuts should be maintained at 50 lb.-ft. on 1957-61 Chrysler and Imperial models, Dodge, Lancer and Plymouth. The recommended torque on the Valiant is 45 lb.-ft.

DE SOTO, DODGE, PLYMOUTH

Corrects No-Reverse

In most cases, the cause of no reverse condition on a Torque-Flite 6 or 8 transmission equipped with a one-piece valve body can be traced to a stuck reverse-blocker valve. The condition can be corrected by installing a special package, part No. 2275523.

To make the installation, remove the valve body from the car. Remove the reverse blocker end plate, valve and spring from the transfer plate. Then separate the valve body and steel plate from the transfer plate. It is not necessary to remove the valves

from the valve body unless the oil is very dirty.

Clean the blocker valve bore with crocus cloth, allow all parts to soak a few minutes in a suitable clean solvent, and dry them with compressed air. Then reassemble the valve body, using the valve, seal and spring included in the package. Install the seal with the lip facing the end of the valve opposite the spring.

CORVAIR

Fast Idle Setting

If an excessively fast idle exists when the carburetor is operating on half to full choke, recheck the fast-idle setting.

There should be a clearance of .045 in. between the end of the fast idle screw and the tang on the throttle lever, with the choke in the wide-open position. Use a feeler gauge to obtain an accurate adjustment when making the setting.

LINCOLN

Lubricates Wheel Bearing

Early production 1961 cars used a sodium-base grease for front wheel bearing lubrication. Since approximately Dec. 27, 1960, a lithium-base grease has been used. The two lubricants are not compatible and must not be intermixed.

The lithium-base grease is light
[CONTINUED ON PAGE 66]

PISTONS and CYLINDERS LOOK LIKE THIS

when you use
poor quality brake fluid!

* CROSS-SECTION OF
MASTER CYLINDER;
BORE IS CORRODED
AND PITTED.
*Poor quality
brake fluid did it!*

* PISTONS ARE
CORRODED...
CUPS ARE GUMMED
*Poor quality
brake fluid did it!*

* Unretouched photos

make sure of the job
by using one of these

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HEAVY-DUTY SUPER 703 or SUPER 500 BRAKE FLUIDS

they exceed SAE specifications!



Super BRAKE FLUIDS are packaged in
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gallon and 30-gallon cans as well as
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Your reputation is at stake when you combine quality brake parts with a low grade brake fluid; THEY JUST DON'T MIX! Whether you replace or repair, make sure you refill with an EIS Super BRAKE FLUID. And, no matter which you choose, you're getting a chemically balanced fluid that insures the parts you use and your service!

EIS Super BRAKE FLUIDS have been road-proven over the years to perform safely and to provide sure braking action in all seasons . . . in all driving conditions. Here's why:

VISCOSITY — Chemical ingredients are correctly balanced to maintain efficient operation.

LUBRICATING QUALITY — They provide full lubrication to pistons in master and wheel cylinders, preserve the life of both synthetic and natural rubber parts.

CORROSION — Advanced inhib-

itor formulations protect metal parts from corrosion.

COMPATIBILITY — They mix and work with all quality brake fluids.

OPERATING RANGE — Super 703 . . . High—over 410°F., Low—minus 60°F., Super 500 . . . High—300°F., Low—minus 60°F.

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What Caused This?

The owner complained that his 6 cyl. standard transmission vehicle was misfiring. Spark plugs and secondary ignition cable were checked and found to be in working order. A compression check, however, pinpointed one cylinder. Upon removing the cylinder head, the mechanic saw a hole the size of a half-dollar burned completely through the piston head. Do you know what caused this? Answer is on page 136.



Factory Service Slants

continued from page 64

in color. The sodium base grease is a dark greenish brown. Only the sodium-base grease will form long stringers as it is pulled apart.

If grease of the same type as that in the bearings is not available when the bearings are lubricated, all of the old grease must first be removed before they are repacked. Mixing of the two greases will cause a bleeding action which will permit the lubricant to pass the seal and affect brake operation.

MERCURY, COMET

Clean Crankcase Ventilator

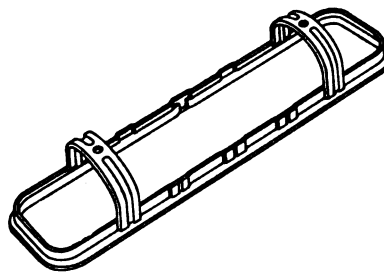
Failure to service the positive-type crankcase ventilating system at recommended mileage intervals can affect engine performance and fuel and oil economy. Carburetor is calibrated to compensate for crankcase vapors drawn into the intake manifold. If ventilating system becomes blocked due to failure to clean the parts at recommended intervals, carburetor air-fuel ratio is affected and the engine will begin to operate on a rich mixture. Also, lack of adequate crankcase ventilation will increase sludge formation.

The parts of this crankcase ven-

tilation system should be cleaned at 8,000 mile intervals on Comet and Mercury, and at 6,000 mile intervals on Lincoln. These intervals are based on the use of approved lubricants and filters and apply to cars in normal service. Under extremely adverse operating conditions the parts may have to be cleaned more frequently.

STUDEBAKER

Aids Valve Adjustment



Top of rocker arm cover is cut out to permit valve adjustment without loss of oil

Oil loss can occur when adjusting valve rocker-arm clearance on a 1961 Lark. To prevent this, modify a rocker arm cover by cutting out the top of the cover, leaving only two strips for securing the cover to the studs. The base of the cover acts as a baffle to contain the oil.

When making the adjustment, reduce the engine speed to less

than the normal 550 rpm idling speed to prevent oil loss. The lower speed will also permit a more accurate adjustment.

FORD

Fuel Pump Maintenance

Mechanical type fuel pumps should be replaced or overhauled after 45,000 miles or two years of operation, whichever comes first. This applies to both cars and trucks.

The fuel pump diaphragm will normally wear over many thousands of miles of use and, when sufficient deterioration has taken place, fuel can pass the diaphragm and dilute the engine oil. The pump service recommended lessens the possibility of internal engine damage from this cause.

OLDSMOBILE F-85

Adjusts Dwell Angle

The following procedure permits dwell angle to be adjusted without risking possible injury from the fan blades.

With the engine running at normal operating temperature, connect a dwell meter to the primary lead terminal on the coil and a suitable ground. Raise the access door on the distributor cap and retain it in the raised position with a small lump of calking compound. With the engine running at idle speed, use the special tool available to engage the adjusting screw located at an angle to the door in the cap. Adjust dwell angle to 30 deg., remove the calking compound and close the access door.

PLYMOUTH, VALIANT

Replace Switch Rheostat

The headlamp switch rheostat on 1959-61 Plymouths and on all Valiants can be replaced separately. Use rheostat parts package No. 2275231 for switches marked "FASCO," and part No. 2275234 for those marked "RBM."

To replace rheostat, remove
[CONTINUED ON PAGE 68]

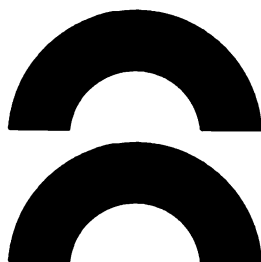


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Today, General Motors thermostats proudly bear the new name of Delco-Harrison. The name Delco means new national recognition and acceptance. And, for half a century, the Harrison name has been the standard of quality in automotive heat transfer products. Now, these two great names combine into Delco-Harrison . . . to assure you of the highest standards of sales performance and product reliability. So, simply say Delco . . . **Delco-Harrison** thermostats, distributed nationally through **United Delco**



continued from page 66

switch and dislodge the spring with a screwdriver. Compress the spring and rheostat between the thumb and forefinger and remove them with a turning motion.

Assemble the new rheostat. Compress the assembly between the thumb and forefinger, and slip it into the housing. Then locate the spring on its seat with a screwdriver blade and, with a turning motion, slip the rheostat into position. The contact tab on the "FASCO" switch must make positive contact with the dome lamp terminal at its extreme counter-clockwise position of rheostat travel. On "RBM" switches, the larger master tab on the drive plate must be fully engaged in the corresponding notch in the rheostat ceramic.

VALIANT

Lubes Gearshift Linkage

The gearshift linkage on cars equipped with manual-shift transmissions should be lubricated every 10,000 miles or once a year, whichever occurs first.

To lubricate the linkage, remove the four screws from the rubber boot on the gearshift linkage and slide the boot upward away from the floor pan. Apply engine oil to lubricate the pivot points and yoke selector mechanism.

WILLYS

Protects Kickdown Switch

Kickdown switches are coated with an electrical insulating compound in production to prevent possibility of engines being "drowned out" during wet-weather operation. Replacement switches are not coated because the coating must be applied after the harness is attached to the switch.

When a replacement switch is installed, coat the switch terminal connections and at least 2 in. of the harness with a suitable electrical insulating spray.

LINCOLN

Emergency Hood Release

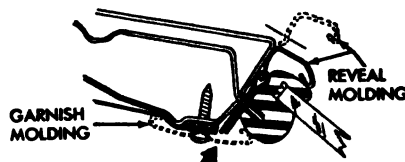
Should the hood control cable become broken or disconnected, the hood can be opened with a 32 $\frac{3}{4}$ in. length of $\frac{1}{4}$ or $\frac{3}{8}$ in. solid bar stock.

Place a piece of masking tape on the bar 15 in. from one end to serve as a marker. Then remove the rear splash shield from the left front fender. Locate the 1 $\frac{3}{4}$ in. round hole in the upper rear corner of the left front fender apron. The hole is beside the heater blower motor and there is electric wiring routed through the hole.

Now insert the bar stock 15 in. into the hole and contact the hood release catch. With the bar held as high as possible, pull it toward the front of the car using the hole as a pivot point. The bar will supply the leverage required to open the catch.

PONTIAC

Repairs Damaged Clips



Cotter pin (arrow) is inserted through molding retaining flange and the body pinchweld flange

Should the clips which retain reveal moldings around the windshield or back window become damaged, either of the following procedures can be used to secure the molding.

Use an auxiliary screw where there is a gap between molding and body surface. Insert a sharp punch or awl between reveal molding and rubber channel, push molding in flush, and punch a hole through retaining flange of molding and body panel. Apply calking compound on the threads of a small sheet metal screw and,

with the molding held in position, install the screw.

Another method is to remove the garnish molding and disengage the reveal molding enough to mark the retaining flange. Do not mark at an existing retaining clip location. Now remove the reveal molding, drill a $\frac{1}{8}$ in. hole through its retaining flange, and a $\frac{3}{16}$ in. hole through the body pinchweld flange. Install a $\frac{3}{32}$ by 1 in. cotter pin and, with the molding retaining clips engaged, pull cotter pin from inside the body. After the cotter pin has been pulled down, open the ends of the cotter pin to secure in place.

CADILLAC

Cleans Trunk Linings

Do not use a fabric cleaner to clean the trunk lining material on 1960 and earlier models. The use of a solvent can cause the tar paper backing to bleed through the trim.

Suds, such as those obtained from a mild soap and water or special preparations for the purpose, can be used on the surface of the trim. Be careful not to saturate the fabric. Remove the suds with a vacuum cleaner after the cleaning operation.

STUDEBAKER

Trunk Lid Lock Housing

The trunk lid lock housing and adapter on 1961 Lark models, except taxicabs, are preassembled in production. The adapter is retained in the lock housing by two depressed tangs and special equipment is required for assembly.

For this reason, the lock housing and adapter must always be replaced as an assembly. Only the complete assembly, part No. 1338256, is available for replacement. The listing of individual lock housing and adapter assembly in the current parts catalog is incorrect.



\$10 for Your Ideas

Have you come across any timesaving short cuts or solutions to tough repair problems? If you have, and the idea is a good one, MOTOR will pay you \$10. If your idea needs an illustration, just enclose a rough sketch in your letter. MOTOR'S artists will do a finished drawing.

When your idea applies to one particular car make, be sure to give the make and model year of the car.

Naturally ideas which have already been used or offered elsewhere cannot be considered.

So grab a pencil and jot down your idea on your shop's letterhead or billhead. Then mail it to "Fix It" Editor, MOTOR, 250 W. 55th St., N. Y. 19, N. Y.

Have Troubles? Readers Tell How To

FIX IT

Easier Seal Replacement

The removal and replacement of outer and inner ring seals on a Powerglide Hi-Lo clutch can be accomplished more easily by using a discarded clutch hub.

To adapt the hub, break off one of the eight teeth and bend the remaining seven teeth $\frac{1}{4}$ in. toward the center. The teeth will then fit snugly on top of the spring seat, permitting the spring to be compressed safely for removal of the snap ring. Insert two screwdrivers in the gap left by the removed tooth to release the snap ring.

—GEORGE CROWDER
Geo. Crowder Garage
Flint, Mich.

Replaces Motor Support

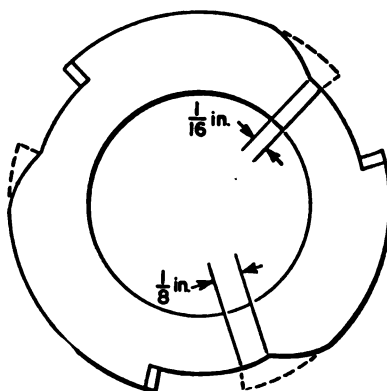
The front motor support plate on most Chrysler 6 cyl. engines up to 1960 cannot be removed without removing the oil pan. This is because the bottom bolt which holds the plate to the block is inserted from the rear, inside the oil pan. Following procedure allows removal of support, without removing oil pan.

First, drill a $\frac{1}{8}$ in. hole into the center of the bolt. Then drive

an Allen wrench into the hole and, with the wrench, thread the bolt back out of the plate. The plate can be removed over the Allen wrench. To install the plate, reverse the procedure.

—LEROY W. BRITTEN
Purdy Motors Ltd.
Halifax, N.S., Canada

Installs Gauge Retainer



Tab edges are ground off at an angle. Base widths of two slots vary to obtain unequal spacing

The retainer which secures the fuel gauge tank unit in the fuel tank on 1960-61 Chevrolets and the 1961 Corvair is difficult to install, even with the proper retainer tool. This is because the tabs

are evenly spaced and must fit exactly.

To make the retainer easier to install, grind off one edge of each of the three tabs at an angle. Vary the base widths of the slots so they are unequally spaced. The retainer can then be started one tab at a time and easily installed with a screwdriver, if a retainer tool is not available. Since the old O ring may be swollen, it's best to install a new one, cemented to the tank unit.

—ROBERT J. FITSER
Belair Rd. Chevrolet Co.
Baltimore, Md.

Repairs Stripped Threads

When removing and replacing door trim panels on Corvettes, we often find that the screw holes are enlarged to a point where they will no longer hold the screws securely. A quick and easy repair can be made in such cases by using clip-on type screw retainers.

To install the screw retainer, drill a $\frac{1}{4}$ in. hole $\frac{5}{8}$ in. in from the original screw hole. Then elongate the $\frac{1}{4}$ in. hole to approximately $\frac{1}{2}$ in., the same width as the clip-on retainer. Now slip the retainer into place, with the screw hole in the retainer lined up with the oversize hole in the panel.

If the screw holes in the metal

[CONTINUED ON PAGE 80]

Getting the Business



Fix It

continued from page 79

corners of the panel are enlarged, snap the clips over the edge of the panel and the repair is made. This method will work on other cars, too.

—ADOLPH HUBLAR
New Albany Motor Co.
New Albany, Ind.

Handy Support Tool

An extra tool for supporting the weight when changing springs or holding up an engine on a lift always comes in handy. A support can easily be made up from scrap that is usually available around the shop.

To make the tool, simply cut about 3½ ft. length of 1½ in. water pipe and weld a suitable saddle to one end of it. Now slip the other end of the pipe over an old bumper jack which is used to raise and lower the weight. It's best to weld the base of the jack securely to keep the jack from tilting.

—MILO MILLER
Bob Barth, Inc.
Syracuse, N.Y.

Replaces Cover Gasket

Replacing a valve rocker arm cover gasket on a late-model

Chrysler, which first requires the removal of a heater duct from the firewall, takes a considerable amount of time. However, this job can be done without removing the duct.

Just loosen the cover and lift it far enough to remove the old gasket. Slip the new gasket over one end of the cover, slide it toward the other end, and then slip the opposite end of the gasket over the cover. By using a mirror to see that the gasket is in place, and cement to hold it there, the replacement can be made quickly.

—W. K. PERRY
G. and P. Auto and Truck Service
Bakersfield, Cal.

Repairs Rear Stabilizer

The rear stabilizer bushings on 1958 Chevrolets sometimes become loose in the mounting bracket on the differential housing. The bracket is not serviced separately and when the eye in the bracket becomes elongated a new housing is required. This is an expensive repair.

To make an effective repair at a much lower cost, use a cutting torch to round out the eye so that a 1½ in. length of 1¼ in. pipe can be inserted. Then weld the

pipe to the bracket and install a new bushing. This gives the bushing a 1½ in. bearing surface, instead of two ¾ in. surfaces, and makes a long-lasting, faster repair at a much lower cost.

—CLIFF HOFER
Tom Carrell Chevrolet
San Fernando, Cal.

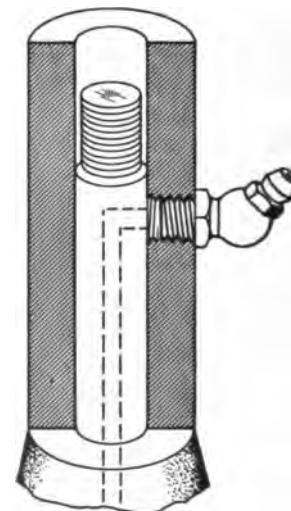
Releases Stuck Turboglide

If the Turboglide on a 1957-61 Chevrolet becomes stuck in the park position, the parking pawl can be tripped to release it by using a valve push rod adapted for the purpose. To adapt the push rod, offset it down 2 in. at one end to form a right angle. Keep the center of the push rod straight for a length of 6¾ in. and, at the other end, bend it up to curve at about 45 deg.

To trip the parking pawl, place the curved end of the push rod in the drain hole and push against the park lever. This eliminates removing the pan and gasket.

—FRANCIS JACKSON
Smith Chevrolet
Haverhill, Mass.

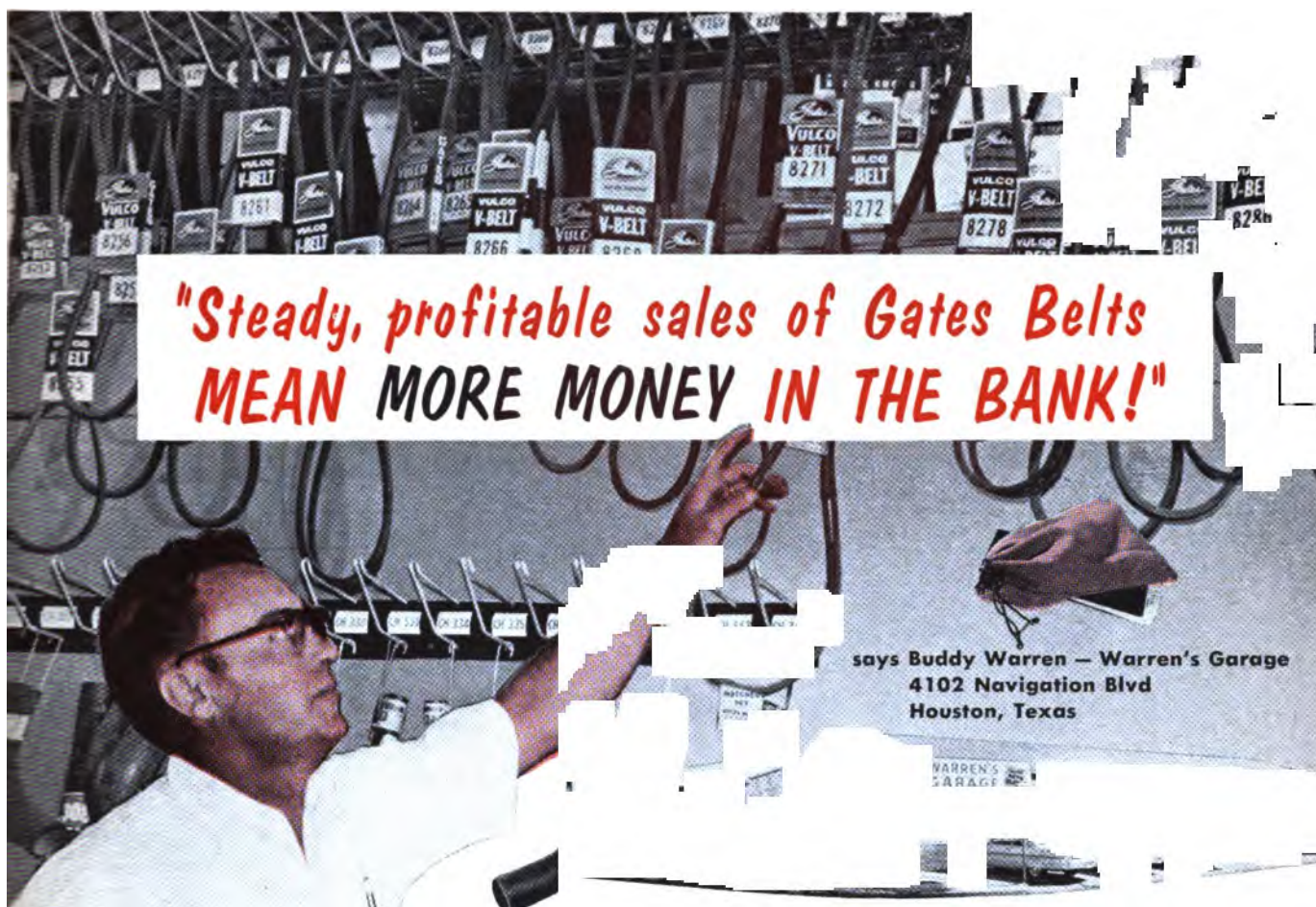
Opens Blocked Oil Holes



Sleeve is placed over rocker arm stud, with zerk fitting lined up with stud hole. Grease pressure through fitting opens oil line

Oil supply holes in the rocker arm studs on late Pontiac and other GM cylinder heads sometimes become plugged. When this happens it's almost impossible to

[CONTINUED ON PAGE 84]



says Buddy Warren — Warren's Garage
4102 Navigation Blvd
Houston, Texas

REPLACE BELTS THAT ARE...

- GREASY • CRACKED
- GLAZED • PEELING
- SPLIT



"Before going into business for myself sixteen years ago, I had nine years' experience selling Gates Belts and Radiator Hose. So, I was well prepared to make these preferred accessories an important part of my profit picture.

"We average 80 belt sales a month — and it sure makes a difference in the amount of money that goes in the bank."

In the garage business too, time means money — Gates garage-tested sales aids are tailored to the task. The Dial Finder and Display Rack help you get the correct belt installed in a matter of minutes. Time saved means a brighter profit picture and a satisfied customer. So, why put it off —

"Go" Gates for Profit — Call Your Gates Jobber TODAY

Your Gates Supplier will have a factory-trained Gates Representative install attractive belt and hose displays, clean up your belt and hose stocks, and supply you with a complete set of Gates garage-tested sales aids. He'll also help you get your present stock in shape for top profits — and you won't lose a penny!



The Gates Rubber Co., Denver, Colo.

World's Largest Maker of V-Belts

Gates Vulco V-Belts and Hose



*you get
your
Chevy parts*

PDQ!

*at your
Chevrolet
dealer's!*



Fix It

continued from page 80

clean out the holes with ordinary cleaning methods. A tool we have made up opens up the holes quickly.

The tool is a sleeve which fits snugly on the stud and is made from a 2 in. length of $\frac{7}{8}$ in. round cold-rolled steel. Drill a $\frac{23}{64}$ in. hole lengthwise through it and then ream the hole with a .374 in. valve guide reamer. At a point $1\frac{1}{8}$ in. from one end drill and tap a $\frac{1}{4}$ in. by 28 thread and install a 45 deg. zerk fitting.

To use the tool, slip it over the stud, lining up the zerk fitting with the hole in the stud. Grease pressure, applied through the fitting, will force the dirt into the main oil channel. Remove the expansion plugs at the ends of the channel and wash out the dirt.

—EVERETT E. REED
Reeds Machine Shop
Moses Lake, Wash.

Adapts Old Filters

Discarded fuel filters of the in-line type, such as those used on Pontiac and a number of other cars, are excellent for use as small funnels.

To adapt the filter, simply cut the top off and remove the filtering material from inside it. This size funnel is especially handy for filling hydraulic jacks, master cylinders, steering gears and so forth.

—HOWARD WHITE
Hamel Pontiac
Sedro Woolley, Wash.

Prevents Oil Leakage

In servicing the crankcase ventilation system on 1954-57 Ford and Mercury cars we have had many of the covers leak after they were removed for cleaning or replacing of the screens.

We have solved this leakage problem by marking the position of the cover and the tube before removing the cover. The cover and tube apparently warp slightly in use. Replacing the tube and cover in their originally assembled positions avoids the risk of having an oil leak.

—MARVIN W. CLARK
Highway Garage
Culpeper, Va.

BODY TIPS

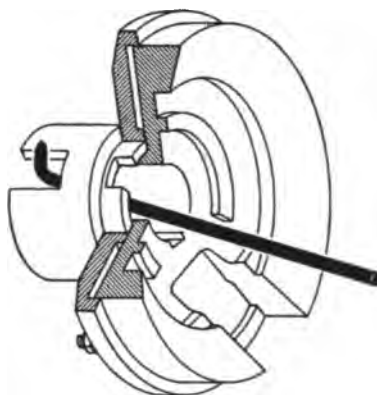
MOTOR will pay you \$10 for each usable timesaving short cut from the body man

Cleans Sanding Discs

Sanding or grinding belts and discs that have been clogged with doughy plastic can be cleaned easily by soaking them in water for a day or so. This loosens the plastic which can be removed quickly with a wire brush.

—WM. SMITH
Smith Auto Rebuild
Lynden, Wash.

Opens Tailgate Window



The $\frac{3}{4}$ in. offset on end of tool is inserted in clutch slot after removal of lock cylinder

On 1959-61 Chevrolet station wagons with manual tailgate window, the window becomes inoperative if the pin in the lock handle assembly breaks. The trim can be removed and the window lowered from inside the car but there's a much easier and faster way.

First, heat and bend a suitable

length of steel rod to obtain a $\frac{3}{4}$ in. offset on one end. Center-punch a dimple through the face of the lock cylinder, insert a paper clip through the hole and push down on the cylinder retainer. Then remove the cylinder.

Insert the tool through the hole from which the cylinder was removed and turn the handle until the offset in the tool catches in the slot in the clutch. Then roll the window down.

—GAYLE E. ROOTE
Bill Root Chevrolet Inc.
Farmington, Mich.

Eases Door Opening

Stiff operation of the outside door-lock release button on a 1960 Ford may make the door hard to open from the outside. When this occurs, a correction can be made quickly without removing the lock from the door.

To ease the release-button operation, open the door and remove the top Phillips screw from the lock. This is the screw which holds the lock in place. Now squirt some light oil into the hole from which the screw was removed and, at the same time, work the release button in and out. The oil will work down into the lock to free up the mechanism. Then reinstall the screw. Lubricating the lock in this way is effective and will last for some time.

—HAROLD R. EDWARDS
Kjelstrup Motor Co.
Garrison, N. D.

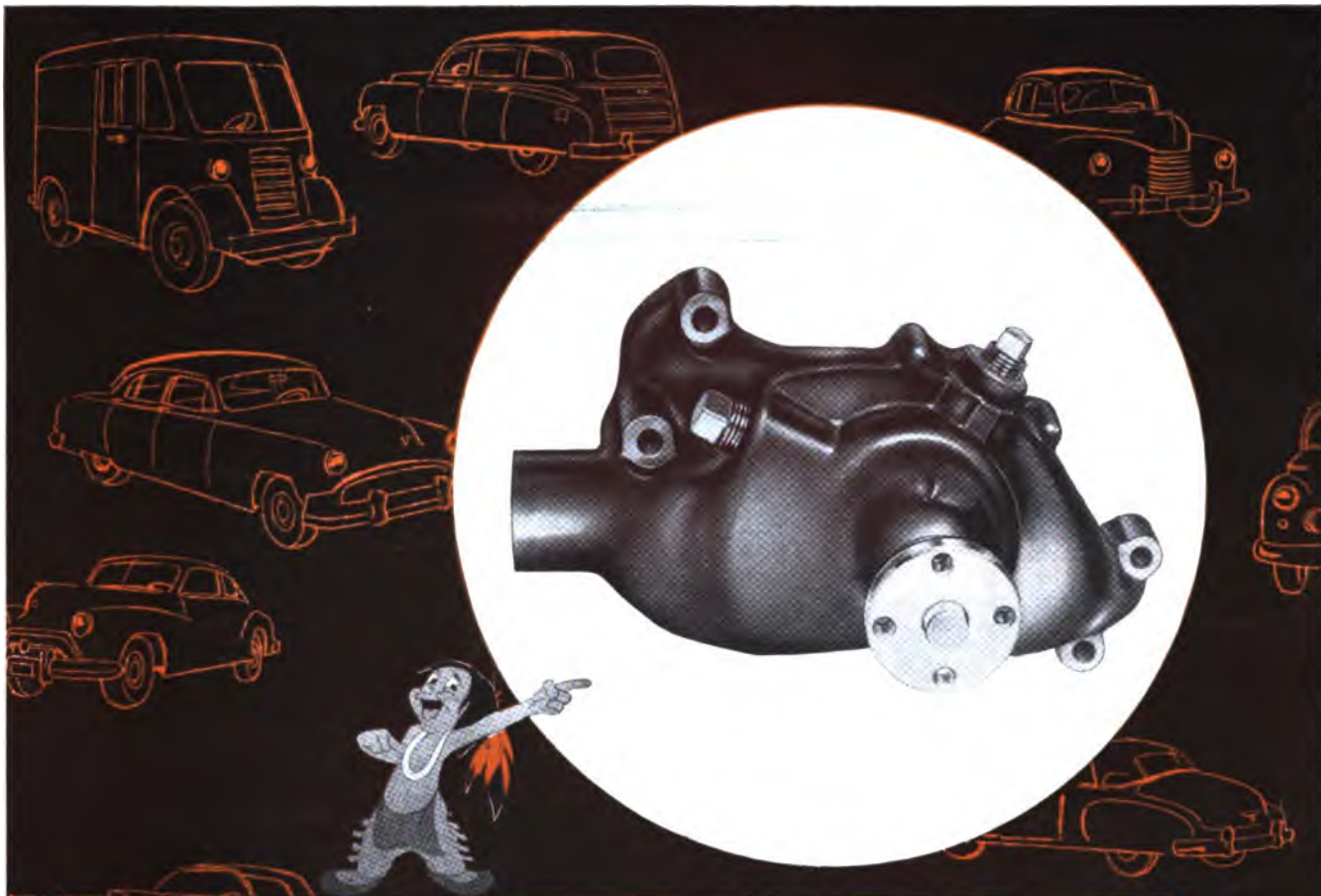
How Would YOU Fix It?

A chance to test your skill as a troubleshooter

► The vacationing car owner complained that his electronic headlight control was not functioning properly. The only information he could give the repairman was that he had had a major tune-up done on his car just before he started on his trip.

Plugs, points, spark plugs and wires had been replaced, he reported, but nothing had been done to the headlight control, which was then operating O.K.

With only this information, where would you begin? Turn to page 130 for the answer.



THOMPSON PRODUCTS **VACUUM TESTED WATER PUMPS** *never need greasing*

Only a precision built, vacuum tested water pump can be greased for life. And that's the story of Thompson factory duplicate pumps. Skilled hands machine and hone each Thompson pump part for precision fit. Critical engineers torture test each model for the equivalent of the car's operating life. Each and every pump is vacuum tested against the most minute seal or assembly defect. *And as a final assurance of long, trouble-free life, Thompson water pumps are greased for life.*

To get the water pump you need, to be sure of reliable service and a satisfied customer—specify Thompson. There's a factory duplicate for virtually any car in use today—regardless of make, model or year.

Sold thru the world's finest jobbers



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Thompson Ramo Wooldridge Inc.

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*mufflers . . . flexible tail pipes . . . exhaust pipes . . . spark plugs . . .
battery cable . . . fan belts . . . radiator hose . . . oil filters . . . brake
fluid . . . thermostats . . . ignition coils . . . shock absorbers . . . batteries
. . . engine care chemicals . . . car appearance chemicals . . . automatic
transmission fluid . . . power steering fluid . . . remanufactured parts
. . . anti-freeze . . . lamp bulbs . . . sealed beam units*

Whatever the job, there's a part to fit!

A complete quality line of replacement parts . . .

FOR CHRYSLER CORPORATION VEHICLES

Genuine "New" MoPar Parts and Accessories—The only new parts recommended for these fine cars and trucks.

MoPar Approved Remanufactured Parts—Highest quality parts, r-e-m-a-n-u-f-a-c-t-u-r-e-d to MoPar's rigid specifications.

FOR OTHER MAKES OF VEHICLES

New MoPar "Universal" Parts—Famous MoPar Quality, now available for other popular makes.

Rempar Quality Remanufactured Parts—Quality parts, r-e-m-a-n-u-f-a-c-t-u-r-e-d by MoPar Approved Parts Remanufacturers.

A COMPLETE QUALITY LINE . . . TO HELP YOU . . .

install with confidence—cut service costs—save time and space—
increase profits—provide more dependable service.

Genuine MoPar Parts, MoPar "Universal" Parts, MoPar Approved Remanufactured Parts, and Rempar Quality Remanufactured Parts are available from your MoPar Parts Wholesaler—or your Chrysler Motors Corporation Dealer . . . selling Plymouth, Valiant • Dodge, Dart, Lancer • Chrysler, Imperial • Dodge Truck • Genuine MoPar Parts and Accessories. Call your dealer or wholesaler today!



MoPar Parts and Accessories, Chrysler Motors Corporation, Detroit 31, Michigan

IS IT LEGAL?

By Arthur L. Reuter of the New York Bar



Woman Sues to Recover Car Husband Sold

John and Marion Martley had been separated for six months. Marion owned the house and lived in it, and John stopped in occasionally to pick up some clothes or tools.

One day, John stopped by while Marion was out. Her car, a new Rocket, was parked in the driveway. On the desk in the front hall, Marion had left the registration card and keys. John picked them up, drove the Rocket 100 miles to Clearburg, and sold the automobile to Harris Bingham, the Rocket dealer there. He signed the bill of sale, "Marion Martley," turned over the keys and pocketed the cash.

The next morning, Harris Bingham sold the car to Ewen Payne.

The police traced the Rocket and Marion asked Ewen to give it up, but he refused.

"I bought and paid for the automobile in good faith," Ewen said. "The whole trouble was your own fault in leaving your registration and keys where your husband could pick them up."

Surrenders Car

But when Marion sued, Judge Keen ordered Ewen to surrender the car.

The judge said, "The seller can give no better title than he has himself. John Martley had no title and could give none to Harris Bingham. Bingham could give no title to Ewen Payne.

"Possession of the automobile, of course, was presumptive evidence of John Martley's ownership, but the presumption is not conclusive, and any person dealing with the possessor as the owner does not get title as against the true owner, unless the latter has done something to mislead the purchaser.

"Marion Martley's keys and registration were not given to her husband. They were stolen. It is questionable as to whether there was even negligence in leaving the keys on the desk in her own house, but if there was negligence, it was not sufficient as to bar her claim to the return of her property."

Based on case reported in 111 S.E. 2d at page 638 (Ga.)

Farmer Claims Dealer Is Liable for Crop Loss

Sam Ingram, automobile and farm implement dealer, sold a new Dreadnaught tractor to farmer Will Wright. Though Will had bought two Dreadnaughts from Sam previously, and had been thoroughly satisfied, the new one had several defects. As a result, the tractor had to go back to Sam's shop time and again for repairs, all at Sam's expense.

Not until after harvest time did Sam finally succeed in ironing out the troubles with the Dreadnaught.

Then Will demanded that Sam reimburse him for the reduction of his crop due to the failures of the tractor.

Sam refused.

"Under the dealer's and manufacturer's warranty, our obligation was to furnish the parts necessary for repairs," Sam argued, "and in paying for both parts and labor we've done more than we were obligated to do."

Awarded Judgment

But Judge Wise decided that Sam had to pay and awarded Will a judgment for the money he proved to have been lost by the tractor's inactivity.

Said the judge, "In addition to the express written warranty delivered to the buyer of the tractor at the time of sale, there may be an implied warranty of fitness for use, where the buyer makes known to the seller the particular purpose for which the article is required, and relies on the seller's skill or judgment that the article is fit for the purpose.

"Wright had bought other tractors from Ingram and Ingram knew that the tractor was to be used on Wright's farm. Impliedly, Ingram warranted that the tractor would be fit for normal farm use.

"Ingram knew or should have known that if the tractor should be inoperable, Wright's ability to raise his crop would be impaired. The damage Wright suffered by the forced reduction in production was the natural result of the breach of warranty of fitness and was readily foreseeable as such result.

"Such consequential damages, directly attributable to the breach of warranty, are recoverable by the injured party."

Based on case reported in 100 N.W. 2d at page 521 (Neb.)

Car Loan to Customer Backfires on Garage

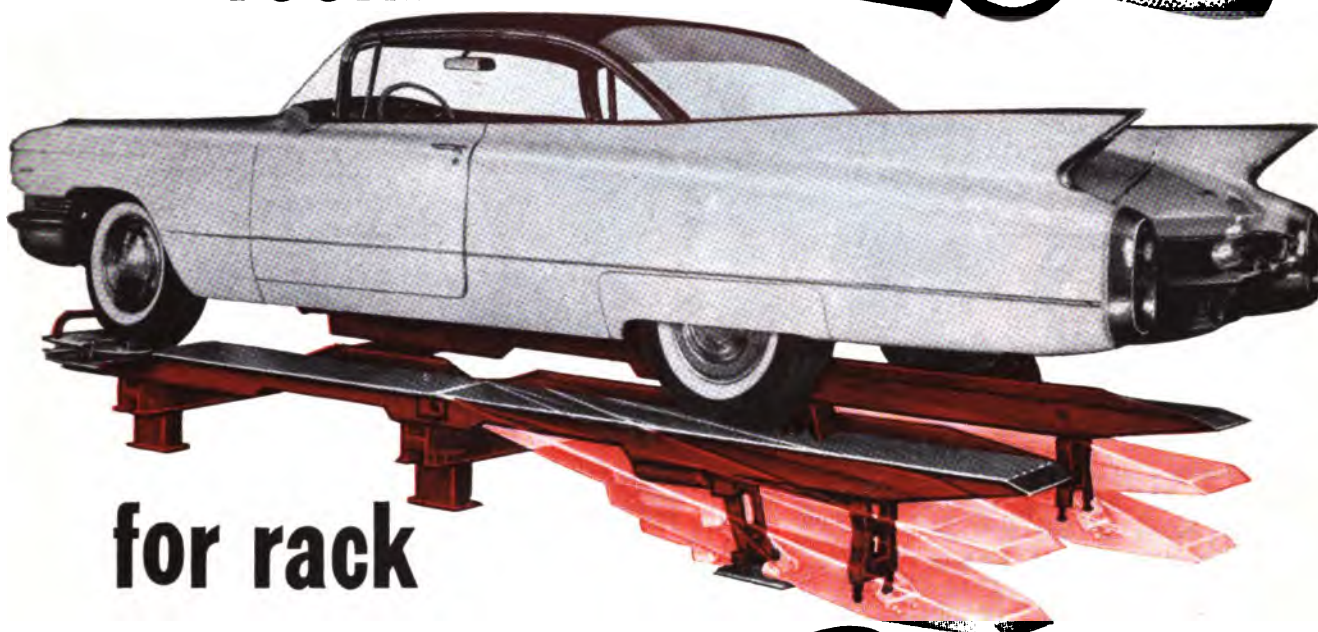
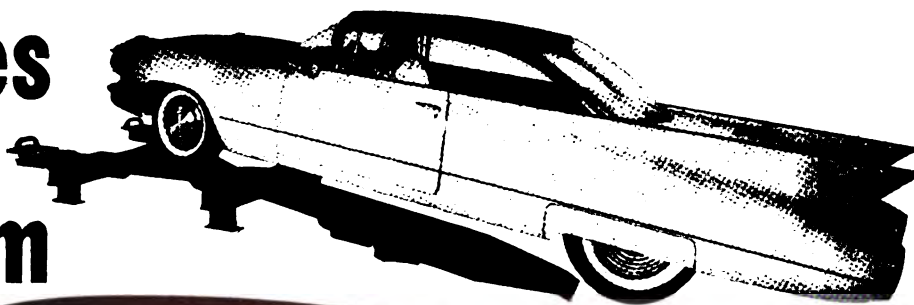
Morley Smith brought his Pluto sedan to Gus Hammer's garage for clutch repairs. It was Saturday and Gus told him that he couldn't do the work until the following Monday.

"All right, I'll leave it here now," Morley said. "I don't want to drive it the way it is."

Morley added that he and his wife expected guests over the weekend. "I don't know how we'll man-

[CONTINUED ON PAGE 160]

**makes
room**



**for rack
alinement**

162 Power Rack

the new BEAR.

**announcing a NEW MONEY MAKER for
alinement, mufflers, tail-pipes, shock absorbers,
brake service, tires and balancing service!**

going on  going up  all up  ... either wheel up 

162 Power Rack is Bear's answer to your many under-car servicing problems. Its retractable ramps make room for alinement wherever you have room for a car!

Space saving is only one problem-solving feature you get with 162 Power Rack. There's nothing like it for getting at shocks...replacing tail-pipes and other under-car service.

It's just like driving on to any other rack when you drive on to the 162 Power Rack. You've got full visibility . . . no feeling of driving up a hill! When you are up, you are

high enough up for under-car work—but low enough to easily make those over-the-fender adjustments.

The controls are mounted on a wall or on the rack, so you leave the car before raising or lowering the ramps—assuring complete safety with visibility from start to finish.

With the 162 Power Rack you can lower either wheel—getting complete access to the under-side of the car for tail-pipe replacement—shock service, etc. And, with the Bear Air or Hydraulic Units under the front end, you can raise or lower either front wheel or both simultaneously.



---INCREASE YOUR EARNINGS—MAIL THIS COUPON NOW!---

BEAR MFG. CO.

Dept. M-8, Rock Island, Ill.

Without cost or obligation, send me the FREE BULLETIN on the new Bear Money-Making 162 Power Rack.

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Address

City Zone State

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News for Jobbers

ASIA Lends Support To Tax-Credit Plan

Automotive Service Industry Assn. members, testifying before the House Ways and Means Committee, supported the Administration's proposals to aid small businesses in obtaining capital necessary for growth by means of income tax deductions.

Bills H.R. 2 and S. 2 provide that any business, incorporated or not, would be allowed to deduct from business net income an amount equal to additional aggregate investment in depreciable assets, inventories and accounts receivable during the taxable year, but not to exceed 20 per cent of such income or \$30,000, whichever is the lesser.

Testifying were Vincent Fochtman, Fochtman Motor Co., Petoskey and Traverse City, Mich., Robert Friedman, Everhot Manufacturing Co., and ASIA's Washington legal counsel, J. Austin Latimer.

NAPA Meeting Draws 800

A National Automotive Parts Assn. business conference held in San Francisco last month attracted some 800 NAPA jobbers and wives, NAPA suppliers and warehousemen from nine western states.

Guiding the affair was J. I. Pimentel, general manager of the NAPA San Francisco warehouse which was host for the meeting. A series of business sessions was held, in which members heard revealing

talks on such subjects as difficulties and opportunities which lie ahead for members of the replacement parts business, what NAPA jobbers expect from manufacturers, what NAPA manufacturers expect from jobbers, obsolescence protection.

MEMA Adds Members

Since the beginning of the year, 12 new members have joined the Motor and Equipment Manufacturers Assn. Also added to the association's roster are 13 credit subscribers and 25 AAR associate members. MEMA now has approximately 450 members, 395 credit subscribers and 450 AAR associate members.

Booklet by Diesel Group

"This Is ADS" is the title of a new booklet published by the Assn. of Diesel Specialists. Included are a history of the association, officers and directors and a complete listing of all standing committees. There is also a list of members.

Attend Management Course

The week-long top management course held at the University of Illinois May 14-19 was attended by 47 Automotive Service Industry Assn. wholesaler executives. The course included subjects on sales management techniques, training for salesmen, financial management, advertising, and other management problems.

Joseph New President Of Ad Council

At its recent meeting, the Automotive Advertisers Council elected Albert Joseph, advertising manager of AP Parts Corp., as president.

Other officers elected are: vice president, Al Ballantyne, advertising manager of Monroe Auto Equipment Co.; treasurer, George Thoma, advertising manager, Thor Power Tool Co.; corresponding secretary, Alfred Roffman, advertising manager, Standard Motor Products, Inc.; and Norman Hull-Ryde, sales promotion manager of Wix Corp., as recording secretary.

Buys Turbine Firm

Perfect Circle Corp. has announced acquisition of Schellens True Corp., Ivoryton, Conn. The purchase was made by an exchange of stock.

Schellens True produces turbine blades and wheels for gas and steam turbines, compressors, blowers, pumps and auxiliary equipment. The firm will be a wholly-owned subsidiary of Perfect Circle and will be operated by the present Schellens True management.

Group Backs Safety

Southwest Automotive Wholesalers Assn., representing members in Arkansas, Kansas, Nebraska, Missouri, Oklahoma and Texas, has passed a resolution favoring state periodic motor vehicle safety inspection programs.

The resolution calls on individuals and groups to join in getting enactment of vehicle safety legislation in their states. Of the states in the association, only Texas has such legislation.

Merger Study Dropped

In a joint announcement, ACF Industries, Inc. and Republic Aviation Corp. reported that a merger between the two firms is no longer being considered. The announce-

[CONTINUED ON PAGE 95]

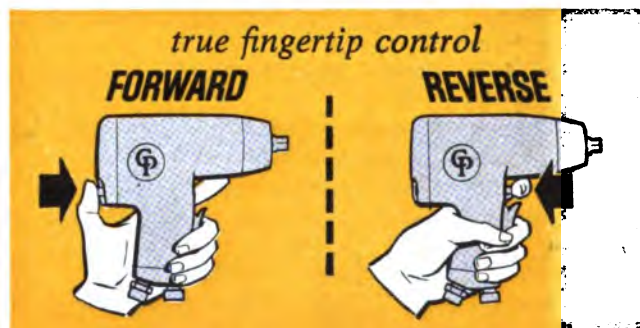
NEW! **1/2" SQUARE DRIVE** AIR-WRENCH



NEW!
CP-734
"Whippet"
AIR-WRENCH
1/2" SQUARE DRIVE
1/2" BOLT CAPACITY

Sets new standards for:

- ✓ *Performance*
- ✓ *Easy Operation*
- ✓ *Speed*
- ✓ *Reserve Power*



Busy service shops and smart mechanics everywhere are turning to the new CP-734 "Whippet" Air-Wrench. Here's a 1/2" square drive, 1/2" bolt capacity Air-Wrench with money-making, time-saving features built right in.

It's faster because the exclusive, air-smooth "Dyna-Pact" hammer accelerates faster... sustains speed. Gives you controlled power.

It's easier to handle because it feels "just right." Balanced for one-hand action... with the "Forward-Reverse" control right where it should be... at your fingertip.

It's lighter because the more efficient impact unit permits a substantial reduction in tool size... really makes it

compact. It only weighs 4 1/2 pounds. Yet, the "Whippet" is head and shoulders above the rest for reserve power.

Can be furnished with the exclusive LOK-ON Angle Head that lets you handle those ratchet wrench jobs with one-hand ease.

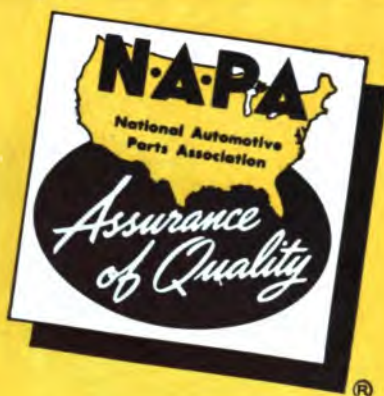
For more information on the New CP-734 "Whippet" Air-Wrench, write for Bulletin SP-3042 to: *Chicago Pneumatic Tool Company, 8 East 44th Street, New York 17, N. Y.*



Chicago Pneumatic

AIR AND ELECTRIC TOOLS • IMPACT WRENCHES • AIR-DRILLS • BREAKERS • PNEU-DRAULIC JACKS AND PUMPS • ZIP-GUNS

MOTOR, July 1961



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of Genuine Quality



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—FAMILIAR TO OWNERS of cars and trucks of all makes, models and ages

Millions of car owners, whatever they drive, and wherever they drive, recognize the N•A•P•A Seal as a symbol of quick parts availability and fast repair service.

Year after year, N•A•P•A's advertising has been telling today's car owners to depend on the N•A•P•A Seal for products of genuine quality, and fast service.

Many of today's car owners were reading N•A•P•A advertisements long before they could get a driver's license. Perhaps you were, too.

They may be driving Fords, Chevrolets, Plymouths or Cadillacs. They may be at home or away from home. But they *know* that the N•A•P•A Seal denotes products of *genuine quality*, no matter where they see it.

When you deal with your N•A•P•A Jobber—when you display the N•A•P•A Seal—you are attracting business. You are also saving yourself a lot of time. How? . . . Your N•A•P•A Jobber is one of 3,000 who are a part of the nation's largest independent parts distributing system.

When you call your N•A•P•A Jobber—you are the closest you can get to immediate supply of the products of the finest manufacturers in the automotive industry, as you will note on checking the next page. Talk with your N•A•P•A Jobber now. Profit from his service—and the business the N•A•P•A Seal will bring to your shop.

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Allied Pistons, Piston Pins, Sleeve Assemblies, Valves, Valve Springs and Water Pumps.

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American Brakeblok

Sintermet Transmission Discs
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Birmingham, Michigan

BRIGGS Shock Absorbers and Load Absorbers

Briggs Shock Absorber Company
Cleveland, Ohio

CLEVELAND Universal Joints

Cleveland Steel Products Corp.
Cleveland 35, Ohio

DETROIT Universal Joints, Drive Shafts

Detroit Universal Division
Dearborn 1, Michigan

DITTMER Transmission & Overdrive Gears

Dittmer Gear Division • Auburn, Ind.

Federal Ball Bearings
The Federal Bearings Co., Inc.
Poughkeepsie, New York

MicroTest Automatic Transmission Parts and Kits

MicroTest Gear Company
Indianapolis, Indiana

Monmouth Clutch Plates

Dana Corporation • Toledo, Ohio

RARITAN Roller Bearings

Raritan Bearings • West Trenton, N. J.

Soundmaster Mufflers, Exhaust and Tail Pipes, Exhaust System Accessories

DeKoven Manufacturing Company
Racine, Wisconsin

Spicer Universal Joints & Propeller Shafts; Transmissions; Power Take-Offs; Clutches; Hub/Lok; Axles;

Dana Corporation • Toledo, Ohio

VICTOR Automatic Transmission Pinion & Wheel Seals

Victor Manufacturing & Gasket Co.
Chicago 50, Illinois

ELECTRICAL & SAFETY

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Brake Lining, Clutch Facings,
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Birmingham, Michigan

Belden IRS Ignition Sets (Ignition Radiation Suppression), Vinyl and Lacquered Braid Primary Wire, 6 & 12 Volt Battery Cables & Ground Straps, Terminals
Belden Manufacturing Company
Chicago 80, Illinois

BRIDGEPORT Tire Valves, Accessories
Bridgeport Brass Company
Bridgeport 2, Connecticut

ECHLIN Ignition and Electrical Parts
The Echlin Manufacturing Company
Branford, Connecticut

TRICO Windshield Equipment for Motor Vehicles

Trico Products Corporation
Buffalo, New York

TUNG-SOL Directional Signal Flashers
Tung-Sol Electric, Inc. • Newark, N. J.

UNITED Hydraulic Brake Parts, Brake Fluid, Parking Brake Cables and Assemblies, Power Brake Kits, Speedometer Cables and Casings, Fuel Pump Kits

United Parts Division
The Echlin Manufacturing Company
Chicago 7, Illinois

VISALL Turn Signals and Switches; Reflex Reflectors; Truck Mirrors; Flares; Lights—Clearance Marker, Stop and Tail, Emergency, Fog, Driving and Back Up.
Vehicle Products Company
Cincinnati 10, Ohio

WEATHERHEAD Brass Fittings, Oil & Gas Lines, Controls, Hydraulic Brake Fittings, Power Steering Hoses
The Weatherhead Company
Cleveland, Ohio

TOOLS & EQUIPMENT

B*K Test Equipment for Engines, Automatic Transmissions, Electrical and Cooling Systems.

B*K Service Products
Indianapolis, Indiana

FLEET Hydraulic and Mechanical Jacks; Specialized Service Handling Equipment

Edgewater Automotive Division
St. Joseph, Michigan

New Britain A complete line of hand tools for automotive mechanics; plus specialized tools for repair and adjustment of automatic transmissions.

The New Britain Machine Company
New Britain, Connecticut

Soundmaster Heatmaster—Electronic Muffler Removal Tool, Kutmaster—Precision Pipe Cutter, Pipe-rounder and Pipe expander—Safety Fit Tools

DeKoven Manufacturing Company
Racine, Wisconsin

APPEARANCE & MAINTENANCE

BALKAMP Miscellaneous Parts for Ford, Chevrolet, Plymouth and other popular cars; Rubber Products, Switches, Starter Drives.

Balkamp, Inc. • Indianapolis, Indiana

B*K Service and Supply Necessities (more than 1600 numbers)

B*K Service Products
Indianapolis, Indiana

MAC'S Automotive Polishes and Chemicals

Mac's Super Gloss Co., Inc.
Los Angeles 42, California

MARTIN-SEROUR Automotive Colors, Undercoats, Thinners and Reducers, specialties

The Martin-Senour Company
Chicago 8, Illinois

Prospect Contour Replacement Front, Rear and Trunk Mats

Prospect Rubber Company
Cleveland 3, Ohio

ROCKFORD Fasteners, Screws, Nuts and Bolts, (Used Everywhere).

Rockford Screw Products Co.
Rockford, Illinois

trophy Floor Mats, Litter Baskets
Rubbermaid, Inc. • Wooster, Ohio

"Parade of Parts" serves repairmen everywhere through 3,000

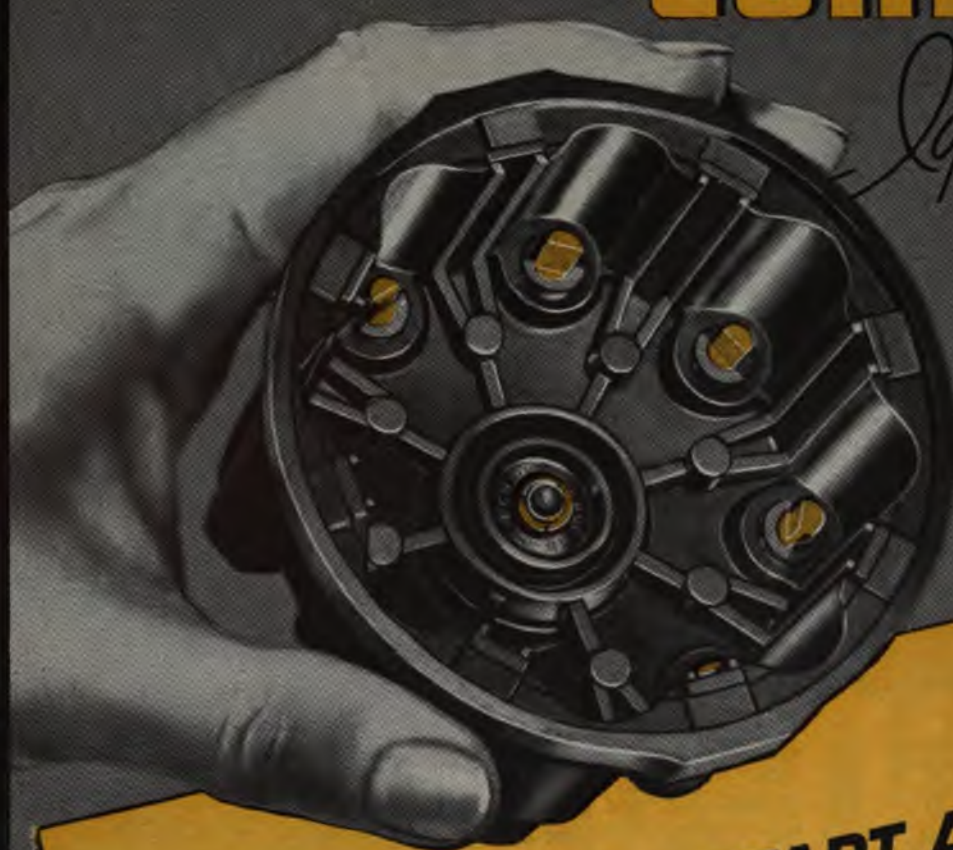
NAPA Jobbers



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ECHLIN

Ignition



**BETTER TO START AND
BEST IN THE LONG RUN**



ECHLIN

Ignition

UNITED

Brake Parts

THE ECHLIN MANUFACTURING COMPANY • BRANFORD, CONN.

UNITED PARTS DIVISION • CHICAGO, ILL.

ECHLIN - UNITED OF CANADA, LTD., TORONTO

IGNITION & ELECTRICAL PARTS • HYDRAULIC & POWER BRAKE PARTS • BRAKE CABLES • BRAKE FLUID • SPEEDOMETER CABLES

News for Jobbers

continued from page 90

ment said, "After thorough study it is the reluctant conclusion that a merger does not offer sufficient advantage to the two companies to be warranted."

Urges Standards for Brake Friction Material

A resolution urging the Society of Automotive Engineers to develop friction material grade standards by which brake lining can be rated as to quality has been adopted by members of the Brake Shoe Bonders Institute, division of Automotive Parts Rebuilders Assn., Inc.

Refurbish Old Name

The 57-year-old trade name Prest-O-Lite is being extended in modified form to cover a full line of automotive products by the Electric Autolite Co., which recently sold its battery and spark-plug production and sales facilities, as well as the trade name Autolite, to the Ford Motor Co.

With hyphens dropped, the old

name has now become Prestolite. Originally, the name was applied to acetylene lighting systems for cars.

Additive Maker Cited

Federal Trade Commission has charged that Magnaflo Co., Inc., Youngstown, Ohio, maker of the battery additive called Lifetime Charge, has falsely advertised that the product is "U.S. Government Approved," "gives a permanent charge" and enables purchasers to "drive confidently all year long."

Dedicates Research Center

Eaton Manufacturing Co. dedicated a \$1,300,000 research center last month in Southfield, Mich. Located on a nine-acre site, the center will be used for development of new products and ideas.

Rebuilders Adopt Code

A code of ethics has been adopted by rebuilder members of the Automotive Service Industry Assn. Included in the code's responsibility

[CONTINUED ON PAGE 96]

DURO offers a complete range of BRAKE SERVICE TOOLS

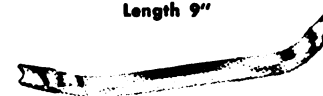
Every tool needed for brake service and adjustment is now available in the DURO Chrome Alloy Steel quality line. This includes:

STAR NUT BRAKE ADJUSTING TOOLS

For speedy and convenient adjustment of Bendix, Huck and other brakes on cars and trucks. Every Service Station, Garage or Mechanic should have these tools. Each has its advantages in clearing obstructions such as springs and body suspensions. Each tool is notched at both ends to prevent slipping off of star nut. Drop forged from Chrome Alloy Steel for extra strength, the blades are thin but sufficiently wide for good contact. Scientifically hardened. Polished and Chrome plated.



No. 2161 BRAKE ADJUSTING TOOL
Length 9"



No. 2162 BRAKE ADJUSTING TOOL
Length 6-15/16"

BRAKE LINING AND GENERAL RIVETING SET



No. 824

Designed especially to re-line brakes economically, this set is a handy and useful tool on many other repair jobs around a household where the use of rivets is made to fasten leather, canvas, plastic and metal objects.

Set includes holding frame, anvil, combination drill and countersink tool, punch for removing rivets and tool for clinching rivets. Hands are left free for work as frame can be held firmly in a vise. Height overall 3 1/2".

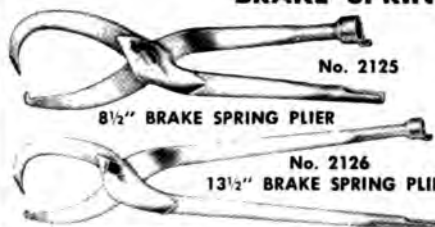
BRAKE SPRING TOOL



No. 3430
BRAKE SPRING TOOL

This tool simplifies and speeds the removal or replacement of Bendix brake springs. It will work equally well on any spring that is attached to a post. Socket end is used for removing, and hook end for replacing springs.

BRAKE SPRING PLIERS



No. 2125

8 1/2" BRAKE SPRING PLIER

No. 2126

13 1/2" BRAKE SPRING PLIER

Make an easy job of removing and applying brake springs. Pointed jaw holds in lined shoe while hook draws spring into position. End of one handle has cam which releases spring from anchor post with a simple turning motion. Other handle for replacing springs, is grooved to slip spring over anchor post.

DURO

METAL PRODUCTS CO.

2649 N. Kildare Avenue

Chicago 39, Illinois

Also makers of nationally advertised DURO Power Tools

IMPORTANT NOTICE TO SUBSCRIBERS

If you are going to move it is necessary that the proper notification be made, at the earliest possible moment, so that you may continue to receive your copies of MOTOR Magazine without interruption.

Such notification should be made to MOTOR Magazine by letter, postcard, or post office form 22S, giving the old address, as well as the new, with postal zone number if any. You should also notify your local post office on postal form 22 of your change of address. Both postal forms are obtainable at any post office.

Since considerable time is required to process a change of address you are urged to advise the MOTOR Magazine Subscription Department as soon as you know your new address, preferably five weeks in advance.

MOTOR MAGAZINE
Subscription Dept.
250 West 55th St.
New York 19, N. Y.

News for Jobbers

continued from page 95

ities for ASIA rebuilder members are articles on quality, distribution, plant facilities, regulatory compliance, catalogs and price sheets, policies, identification, technical assistance and inventory.

Donates Wheelchair

Western Engine Rebuilders Assn. recently donated a specially designed wheelchair for severely burned children to the Children's Hospital in Los Angeles, Cal.

Dedicates New Plant

In the presence of state officials, automotive distributors and members of the press, Monroe Auto Equipment Co. formally dedicated last month its new \$4,500,000 manufacturing plant in Cozad, Neb.

The plant, the company's fifth, is designed to serve the shock absorber market west of the Mississippi. With 100,000 sq. ft. of manufacturing space, the plant employs 250 persons. The plant, however, was designed for future expansion.

McGovern New Head Of Friction Group

James L. McGovern, Jr., Raybestos-Manhattan, Inc., has been elected president of the Friction Materials Standards Institute, for the coming year.

S. Arthur Smith, Silver Line Brake Lining Corp., is the new vice president. Harold Hodson, Marshall-Eclipse Div. of Bendix, is treasurer. Miss Harriet G. Duschek is secretary.

Additional members of the new board are George S. Lamson, L. J. Miley Co.; Alexander Better, Johns-Manville Corp.; John H. Kelly, Marshall-Eclipse Div.; Joseph Greenan, World Bestos Div. of Firestone; and Wade E. Canfield, S. K. Wellman Co. .

Hall to Retire

T. F. (Heinie) Hall, vice president-sales promotion, Walker Manufacturing Co., will retire in October. A 25-year-veteran with the company, Hall is widely known in the industry for his creativity in

merchandising. He has picked Buttonwood Harbour, Fla., for his retirement home.

Gets ASIA Award

Wheels Inc., New York, has received the Automotive Service Industry Assn.'s Distinguished Service Award for "exemplary and enduring service" to the community and the industry. With a predecessor company, the firm dates back to 1876. It is now a warehouse distributor.

To Supply Chrysler's Plugs

Champion Spark Plug Co. announced last month that negotiations have been completed to supply spark plugs to Chrysler Corp. According to the announcement, Champion will supply plugs for Chrysler cars as well as its marine and industrial engine divisions.

Research Center Opens

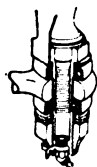
Sealed Power Corp. has completed a \$1,000,000 engineering and

MOOG SOLVED THIS PROBLEM:



How to take the slack and bind out of idler arms!

Ordinary idler arms with threaded or rubber-loaded bearings are often too tight when new, yet quickly wear too loose... resulting in (1) difficult, erratic steering (2) road wander (3) uneven tire wear



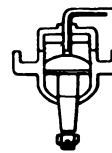
MOOG STEERING STABILIZER converts original equipment idler arm assemblies from rubber or threaded bearings to smooth ball-bearing action. The car owner notices the difference immediately in improved feel of the wheel, faster steering response and more effortless driving. Eliminates excessive steering play, permits better wheel alignment, prolongs tire life.

AND THIS PROBLEM:



How to make ball-joints snug... and stay snug!

All ball-joints gradually become loose due to the constant hammering of wheel. Many are loose even when new. Results in (1) excessive tire wear (2) front-end noise (3) wheel shimmy



MOOG ADJUSTABLE BALL-JOINT has a special threaded plug that adjusts down with the twist of an Allen wrench and locks. Permits custom-tuning the ball-joint for perfect front-end alignment. Can be re-adjusted as necessary thus providing a permanent solution to the loose ball-joint problem. And they last for themselves through longer tire

research center at its Muskegon, Mich., headquarters. Covering 42,000 sq. ft., the facility is divided into four departments: Research, metallurgy, design engineering and application engineering.

The center was dedicated last month at ceremonies marking the firm's 50th anniversary.

Jobber Doings

Robert V. Daly, formerly director of Chrysler Corp. distribution sales program, has been named ex-

ecutive vice president of American Parts Co., Div. of Gulf and Western Industries, Inc.

Middle Tennessee Automotive Wholesalers Assn. recently presented a check for several thousand dollars to the Middle Tennessee Girl Scout Council. Funds will be used to build a year-round camp building for the senior scouts.

Manufacturers' Personnel

LAWRENCE WILKINSON to board

IASI Show Emblem



Official theme-slogan emblem for 1962 International Automotive Service Industries Show

THIS PROBLEM:



to keep tie rod ends lubricated for longer life!

dry tie rod ends develop "dry spots" due to improper lubrication quickly become loose through wear resulting in (1) front-end shimmy (2) erratic steering (3) uneven tire wear



MOOG "GUSHER-BEARING" TIE ROD END features special porous bearings that soak up oil like a sponge. They actually "breathe" letting oil to all bearing surfaces, thus preventing dry metal-to-metal contact and longer life of the unit. A MOOG Tie Rod End can't pull out, burn out or blow. Corrects front-end shimmy and erratic steering, increases tire life.

THESE SPECIAL MOOG "PROBLEM-SOLVERS"...

build customer confidence by actually doing a better job than the parts they replace. They often open the door to other types of under-car repairs...leading to bonus sales of MOOG's complete line of coil action and other spring-suspension parts.

Start ringing up your share of these profitable under-car sales. Contact your MOOG jobber or distributor today!



MOOG MEANS MORE UNDER-CAR BUSINESS

MOOG INDUSTRIES Inc., St. Louis 33, Mo.

of directors, ACF Industries, Inc.

THOMAS J. DOLAN to board of directors and chairman of the executive committee, Gabriel Co.

DENNIS P. ESSER to assistant to the general sales manager, Anti-freeze Dept., Union Carbide Consumer Products Co.

BEN SADOFF to president, ARTHUR SADOFF to executive vice president and JACK L. ROBERTS to vice president in charge of sales, Wells Manufacturing Corp.

N. R. FARSE to vice president-director of automotive and general sales, B. O. DALBEY to general sales manager of Automotive Battery Sales, and H. H. BOCKSTRUCK to sales manager of Automotive Battery Brand Sales, Gould-National Batteries, Inc.

BRUCE R. WILLIAMS to assistant sales manager, Vellumoid Co.

VINCENT J. SULLIVAN to sales manager of United Brake Parts Div., Echlin Manufacturing Co.

JOHN A. SWAYZE to marketing manager for Delco batteries, United Motors Service.

WALTER LISTERMAN to sales manager of replacement sales and FRED THEIL to sales manager of original equipment sales, K-D Lamp Co.

CHARLES R. SPENCER to manager of the automotive-hardware sales division, Gates Rubber Co.

E. I. WHYATT to vice president-administration and H. A. GREGG to assistant secretary, Gould-National Batteries, Inc.

W. C. LEITCH, retiring vice president in charge of sales, to special consultant, the Wayne Pump Co.

JOHN A. DUNN to assistant parts and accessories manager, General Motors service section.

R. I. HAHN to board, the Modine Manufacturing Co.

Prices on 1961 Passenger Cars

FACTORY DELIVERED PRICES AND BODY STYLES

Body, Make and Model	Wheelbase	Factory Delivered Price	Power Brakes	Power Steering	Cheapest Radio	Cheapest Heater	Air Conditioning	Automatic Transmission
BUICK								
Special								
Sedan 2d (Std.)	112	2300	NA	86	66	74	378	189
Sedan 4d (Std.)	112	2381	NA	86	66	74	378	189
Station Wagon (Std.)	112	2676	NA	86	66	74	378	189
Station Wagon 3 seat (Std.)	112	2732	NA	86	66	74	378	189
Sedan 4d (Deluxe)	112	2519	NA	86	66	74	378	189
Station Wagon (Deluxe)	112	2811	NA	86	66	74	378	189
Coupe 2d Skylark	112	2591	NA	86	66	74	378	189
LeSabre								
Sedan 2d	123	2993	43	108	90	99	430	Std
Sedan 4d	123	3107	43	108	90	99	430	Std
Hardtop 2d	123	3152	43	108	90	99	430	Std
Hardtop 4d	123	3228	43	108	90	99	430	Std
Convertible	123	3382	43	108	90	99	430	Std
Estate Wagon 6p	123	3623	43	108	90	99	430	Std
Estate Wagon 9p	123	3730	43	108	90	99	430	Std
Invicta								
Hardtop 2d	123	3447	43	108	90	99	430	Std
Hardtop 4d	123	3515	43	108	90	99	430	Std
Convertible	123	3620	43	108	90	99	430	Std
Electra								
Sedan 4d	126	3825	Std	Std	90	99	430	Std
Hardtop 2d	126	3818	Std	Std	90	99	430	Std
Hardtop 4d	126	3932	Std	Std	90	99	430	Std
Electra 225								
Hardtop 4d	126	4350	Std	Std	90	99	430	Std
Convertible	126	4192	Std	Std	90	99	430	Std
CADILLAC								
Series 62								
Coupe	129 1/2	4892	Std	Std	165	129	474	Std
Sedan, 6 Window	129 1/2	5080	Std	Std	165	129	474	Std
Sedan, 4 Window	129 1/2	5080	Std	Std	165	129	474	Std
Coupe De Ville	129 1/2	5252	Std	Std	165	129	474	Std
Sedan De Ville, 6 Window	129 1/2	5498	Std	Std	165	129	474	Std
Convertible	129 1/2	5455	Std	Std	165	129	474	Std
Sedan De Ville, 4 Window	129 1/2	5498	Std	Std	165	129	474	Std
Town Sedan	129 1/2	5498	Std	Std	165	129	474	Std
Eldorado Biarritz	129 1/2	6177	Std	Std	165	129	474	Std
Series 60								
Special Sedan	129 1/2	6233	Std	Std	165	129	474	Std
Series 75								
Sedan	149 3/4	9533	Std	Std	165	179	474	Std
Limousine	149 3/4	9748	Std	Std	165	179	474	Std
CHEVROLET								
Superba Sedan	120	2542	33	64	70	49	222	222
Marathon Sedan	120	2896	33	64	70	49	222	222
Superba Station Wagon	120	2896	33	64	70	49	222	222
Marathon Station Wagon	120	3004	33	64	70	49	222	222
CHEVROLET *								
Corvair								
Club Coupe—500	108	1920	NA	NA	63	71	NA	157
Sedan 4d—500	108	1974	NA	NA	63	74	NA	157
Station Wagon 500	108	2266	NA	NA	63	74	NA	157
Club Coupe—700	108	1985	NA	NA	63	74	NA	157
Sedan 4d—700	108	2039	NA	NA	63	74	NA	157
Station Wagon 700	108	2331	NA	NA	63	74	NA	157
Club Coupe, Monza-900	108	2201	NA	NA	63	74	NA	157
Sedan 4d, Monza-900	108	2201	NA	NA	63	74	NA	157
Biscayne								
Fleetmaster 2d	119	2337	43	75	54	47	317	199*
Fleetmaster 4d	119	2391	43	75	54	47	317	199*
Sedan, Utility 2d	119	2282	43	75	54	47	317	199*
Sedan 2d	119	2369	43	75	54	47	317	199*
Sedan 4d	119	2423	43	75	54	47	317	199*
Station Wagon Brookwood 6p	119	2760	43	75	54	47	317	199*
Station Wagon Brookwood 9p	119	2863	43	75	54	47	317	199*
Bel Air								
Sedan 2d	119	2491	43	75	54	47	317	199*
Sedan 4d	119	2545	43	75	54	47	317	199*
Hardtop 2d	119	2596	43	75	54	47	317	199*
Hardtop 4d	119	2661	43	75	54	47	317	199*
Station Wagon Parkwood 6p	119	2854	43	75	54	47	317	199*
Station Wagon Kingswood 9p	119	2957	43	75	54	47	317	199*
Impala								
Sedan 2d	119	2643	43	75	54	47	317	199*
Sedan 4d	119	2697	43	75	54	47	317	199*
Hardtop 2d	119	2704	43	75	54	47	317	199*
Hardtop 4d	119	2769	43	75	54	47	317	199*
Convertible	119	2954	43	75	54	47	317	199*
Station Wagon	119	2996	43	75	54	47	317	199*
Station Wagon Nomad 9p	119	3099	43	75	54	47	317	199*
Corvette V-8								
Convertible	102	3934	NA	NA	180	102	NA	199
CHRYSLER								
Newport								
Sedan 4d	122	2961	44	108	100	102	510*	227
Sedan 4d Highlander	122	3012	44	108	100	102	510*	227
Hardtop 2d	122	3025	44	108	100	102	510*	227
Hardtop 4d	122	3104	44	108	100	102	510*	227
Hardtop 4d Highlander	122	3152	44	108	100	102	510*	227
Convertible	122	3442	44	108	100	102	510*	227
Town & Country Wagon 6p	122	3511	44	108	100	102	510*	227
Town & Country Wagon 9p	122	3622	44	108	100	102	510*	227
Windsor								
Sedan 4d	122	3218	44	108	100	102	510*	227
Hardtop 2d	122	3303	44	108	100	102	510*	227
Hardtop 4d	122	3367	44	108	100	102	510*	227
New Yorker								
Sedan 4d	126	4123	Std	Std	100	102	510*	227
Sedan 2d	126	4175	Std	Std	100	102	510*	227
Hardtop 4d	126	4261	Std	Std	100	102	510*	227
Convertible	126	4502	Std	Std	100	102	510*	227
Town & Country Wagon 6p	126	4754	Std	Std	100	102	510*	227
Town & Country Wagon 9p	126	4871	Std	Std	100	102	510*	227
300M								
Hardtop 2d	126	5411	Std	Std	100	102	510*	227
Convertible	126	5841	Std	Std	100	102	510*	227
COMET								
Sedan 2d	114	2011	NA	NA	59	74	NA	172
Sedan 4d	114	2066	NA	NA	59	74	NA	172
Station Wagon 2d	109 1/2	2323	NA	NA	59	74	NA	172
Station Wagon 4d	109 1/2	2366	NA	NA	59	74	NA	172
Sedan 2d S-22	114	2282	NA	NA	59	74	NA	172
DODGE								
Lancer								
Sedan 2d 170	106 1/2	2007	41	73	59	74	NA	172
Sedan 4d 170	106 1/2	2069	41	73	59	74	NA	172
Station Wagon 6p 170	106 1/2	2382	41	73	59	74	NA	172
Sedan 4d 770	106 1/2	2154	41	73	59	74	NA	172
Hardtop 2d 770	106 1/2	2181	41	73	59	74	NA	172
Station Wagon 6p 770	106 1/2	2466	41	73	59	74	NA	172
Dart								
Sedan 2d Seneca	118	2410	43	77	59	74	446*	189
Sedan 4d Seneca	118	2449	43	77	59	74	446*	189
Station Wagon 6p Seneca	118	2815	43	77	59	74	446*	189
Sedan 2d Pioneer	118	2530	43	77	59	74	446*	189
Sedan 4d Pioneer	118	2578	43	77	59	74	446*	189
Hardtop 2d Pioneer	118	2607	43	77	59	74	446*	189
Station Wagon 6p Pioneer	118	2906	43	77	59	74	446*	189
Station Wagon 9p Pioneer	118	3011	43	77	59	74	446*	189
Sedan 4d Phoenix	118	2715	43	77	59	74	446*	189
Hardtop 2d Phoenix	118	2737	43	77	59	74	446*	189
Hardtop 4d Phoenix	118	2796	43	77	59	74	446*	189
Convertible Phoenix	118	2988	43	77	59	74	446*	189
Polara								
Sedan 4d	122	2966	43	77	59	74	446*	189
Hardtop 2d	122	3032	43	77	59	74	446*	189
Hardtop 4d	122	3110	43	77	59	74	446*	189
Convertible	122	3252	43	77	59	74	446*	189
Station Wagon 6p	122	3294	43	77	59	74	446*	189
Station Wagon 9p	122	3409	43	77	59	74	446*	189
FORD *								
Falcon								
Sedan 2d	109 1/2	1912	NA	NA	54	73	NA	163
Sedan 4d	109 1/2	1974	NA	NA	54	73	NA	163
Station Wagon 2d	109 1/2	2225	NA	NA	54	73	NA	163
Station Wagon 4d	109 1/2	2268	NA	NA	54	73	NA	163
Sedan 2d Futura	109 1/2	2160	NA	NA	54	73	NA	163
Fairlane V-8								
Sedan 2d	119	2377	43	82	58	47	271	190/
Sedan 4d	119	2431	43	82	58	47	271	190/
Fairlane 500								
Sedan 2d	119	2492	43	82	58	47	271	190/
Sedan 4d	119	2546	43	82	58	47	271	190/
Galaxie								
Sedan 2d	119	2652	43	82	58	47	271	190/
Sedan 4d	119	2706	43	82	58	47	271	190/
Hardtop 2d	119	2713	43	82	58	47	271	190/
Hardtop 4d	119	2776	43	82	58	47	271	190/
Sunliner	119	2713	43	82	58	47	271	190/
Sunliner	119	2963	43	82	58	47	271	190/

Prices shown on these pages are those which manufacturers would charge for cars if delivered to retail buyers at their main factories. They include federal tax and a delivery charge but no freight, state or local excise taxes, or optional equipment.
NA—Not available.
†—Single range given; dual range is \$248.

*—Price shown is for Powerglide. Turboglide transmission is \$209.
—Combination heater and air conditioner.
—V-8 prices given. Except Corvair: 6 cyl. is \$107 less.
—V-8 prices given. 6 cyl. is \$119 less.
—V-8 prices shown (except Falcon), 6 cyl. cars are \$116 less than same model V-8.

Body, Make and Model	Wheelbase	Factory Delivered Price	Power Brakes	Power Steering	Cheapest Radio	Cheapest Heater	Air Conditioning	Automatic Transmission	Body, Make and Model	Wheelbase	Factory Delivered Price	Power Brakes	Power Steering	Cheapest Radio	Cheapest Heater	Air Conditioning	Automatic Transmission
one									Suburban V-8								
igon 2d	119	2702	43	82	58	47	271	190 ^a	De Luxe 2d	122	2686	43	77	59	74	446 ^a	189 ^a
igon 4d	119	2772	43	82	58	47	271	190 ^a	De Luxe 4d	122	2753	43	77	59	74	446 ^a	189 ^a
edan 6p	119	2868	43	82	58	47	271	190 ^a	Custom 4d 6p	122	2845	43	77	59	74	446 ^a	189 ^a
edan 9p	119	2972	43	82	58	47	271	190 ^a	Custom 4d 9p	122	2955	43	77	59	74	446 ^a	189 ^a
quire 6p	119	3057	43	82	58	47	271	190 ^a	Sport 4d 6p	122	2989	43	77	59	74	446 ^a	189 ^a
quire 9p	119	3127	43	82	58	47	271	190 ^a	Sport 4d 9p	122	3099	43	77	59	74	446 ^a	199 ^a
IL									PONTIAC								
ton 2d	129	4923	Std	Std	169	136	590 ^a	Std	Tempest								
ton 4d	129	5109	Std	Std	169	136	590 ^a	Std	Standard Coupe	112	2113	NA	75	54	74	319	173
ton 2d	129	5403	Std	Std	169	136	590 ^a	Std	Sedan 4d	112	2167	NA	75	54	74	319	173
ton 4d	129	5647	Std	Std	169	136	590 ^a	Std	Custom Coupe	112	2297	NA	75	54	74	319	173
le	129	5774	Std	Std	169	136	590 ^a	Std	Station Wagon	112	2438	NA	75	54	74	319	173
Southampton	129	6218	Std	Std	169	136	590 ^a	Std	Catalina								
	129	6426	Std	Std	169	136	590 ^a	Std	Sedan 2d	119	2631	43	108	89	75	430	231
N CONTINENTAL									Sedan 4d	119	2702	43	108	89	75	430	231
le, 4d	123	6067	Std	Std	Std	Std	505 ^a	Std	Hardtop 2d	119	2766	43	108	89	75	430	231
	123	6713	Std	Std	Std	Std	505 ^a	Std	Hardtop 4d	119	2842	43	108	89	75	430	231
Y □									Convertible	119	3078	43	108	89	75	430	231
	120	2434	43	82	65	75	436 ^a	190	Station Wagon 6p	119	3099	43	108	89	75	430	231
	120	2489	43	82	65	75	436 ^a	190	Station Wagon 9p	119	3207	43	108	89	75	430	231
	120	2612	43	82	65	75	436 ^a	190	Ventura								
	120	2746	43	82	65	75	436 ^a	190	Hardtop 2d	119	2971	43	108	89	75	430	231
	120	2673	43	82	65	75	436 ^a	190	Hardtop 4d	119	3047	43	108	89	75	430	231
	120	2738	43	82	65	75	436 ^a	190	Star Chief								
	120	2986	43	82	65	75	436 ^a	190	Sedan 4d	123	3063	43	108	89	75	430	231
	120	2893	43	82	65	75	436 ^a	190	Hardtop 4d	123	3136	43	108	89	75	430	231
	120	2958	43	82	65	75	436 ^a	190	Bonneville								
	120	3143	43	82	65	75	436 ^a	190	Hardtop 2d	123	3255	43	108	89	75	430	231
one	120	2939	43	82	65	75	436 ^a	190	Hardtop 4d	123	3331	43	108	89	75	430	231
rk 4d 6p	120	3135	43	82	65	75	436 ^a	190	Convertible	123	3476	43	108	89	75	430	231
	120								Custom Station Wagon	119	3530	43	108	89	75	430	231
OBILE									RAMBLER								
se	112	2330	NA	86	66	71	378	189	American								
(Std.)	112	2384	NA	86	66	71	378	189	Deluxe Sedan 2d	100	1845	40	72	54	74	359 ^a	165
agon (Std.)	112	2676	NA	86	66	71	378	189	Deluxe Sedan 4d	100	1934	40	72	54	74	359 ^a	165
agon 3 seat (Std.)	112	2732	NA	86	66	71	378	189	Deluxe Station Wagon 2d	100	2080	40	72	54	74	359 ^a	165
(Deluxe)	112	2519	NA	86	66	71	378	189	Deluxe Station Wagon 4d	100	2129	40	72	54	74	359 ^a	165
agon (Deluxe)	112	2811	NA	86	66	71	378	189	Super Sedan 2d	100	1930	40	72	54	74	359 ^a	165
agon 3 seat (Deluxe)	112	2867	NA	86	66	71	378	189	Super Sedan 4d	100	1979	40	72	54	74	359 ^a	165
upe	112	2621	NA	86	66	71	378	189	Super Station Wagon 2d	100	2165	40	72	54	74	359 ^a	165
	123	2835	43	108	89	75	430	231	Super Station Wagon 4d	100	2214	40	72	54	74	359 ^a	165
	123	2900	43	108	89	75	430	231	Custom Sedan 2d	100	2060	40	72	54	74	359 ^a	165
	123	2956	43	108	89	75	430	231	Custom Sedan 4d	100	2109	40	72	54	74	359 ^a	165
	123	3034	43	108	89	75	430	231	Custom Station Wagon 2d	100	2295	40	72	54	74	359 ^a	165
	123	3264	43	108	89	75	430	231	Custom Station Wagon 4d	100	2344	40	72	54	74	359 ^a	165
	123	3363	43	108	89	75	430	231	Custom Convertible	100	2369	40	72	54	74	359 ^a	165
	123	3471	43	108	89	75	430	231	Custom 400 Sedan 4d	100	2199	40	72	54	74	359 ^a	165
	123	3176	43	108	89	75	430	231	Custom 400 Convertible	100	2459	40	72	54	74	359 ^a	165
	123	3325	43	108	89	75	430	231	Classic 6								
	123	3402	43	108	89	75	430	231	Deluxe Sedan 4d	108	2098	42	74	70	76	369 ^a	200
	123	3592	43	108	89	75	430	231	Super Sedan 4d	108	2268	42	74	70	76	369 ^a	200
	123	3665	43	108	89	75	430	231	Custom Sedan 4d	108	2413	42	74	70	76	369 ^a	200
	123	3773	43	108	89	75	430	231	Deluxe Station Wagon 6p	108	2437	42	74	70	76	369 ^a	200
	126	3887	Std	Std	89	75	430	Std	Super Station Wagon 6p	108	2572	42	74	70	76	369 ^a	200
	126	4083	Std	Std	89	75	430	Std	Super Station Wagon 9p	108	2697	42	74	70	76	369 ^a	200
	126	4021	Std	Std	89	75	430	Std	Custom Station Wagon 6p	108	2717	42	74	70	76	369 ^a	200
	126	4159	Std	Std	89	75	430	Std	Custom Station Wagon 4d 9p	108	2842	42	74	70	76	369 ^a	200
	126	4362	Std	Std	89	75	430	Std	Custom 400 Sedan 4d	108	2563	42	74	70	76	369 ^a	200
	126	4862	Std	Std	89	97	430	Std	Classic V-8								
TH ▼									Super Sedan 4d	108	2397	42	80	70	76	369 ^a	220
7/100	106 1/2	1933	41	73	59	74	NA	172	Custom Sedan 4d	108	2512	42	80	70	76	369 ^a	220
7/100	106 1/2	1994	41	73	59	74	NA	172	Super Station Wagon 6p	108	2701	42	80	70	76	369 ^a	220
agon 2 seat V100	106 1/2	2307	41	73	59	74	NA	172	Super Station Wagon 9p	108	2826	42	80	70	76	369 ^a	220
7/200	106 1/2	2070	41	73	59	74	NA	172	Custom Station Wagon 6p	108	2816	42	80	70	76	369 ^a	220
d V200	106 1/2	2117	41	73	59	74	NA	172	Custom Station Wagon 9p	108	2941	42	80	70	76	369 ^a	220
agon 2 seat V200	106 1/2	2403	41	73	59	74	NA	172	Custom 400 Sedan 4d	108	2662	42	80	70	76	369 ^a	220
	118	2344	43	77	59	74	446 ^a	189 ^a	Ambassador V-8								
	118	2395	43	77	59	74	446 ^a	189 ^a	Super Sedan 4d	117	2537	42	80	70	76	369 ^a	220
	118	2473	43	77	59	74	446 ^a	189 ^a	Super Station Wagon 6p	117	2841	42	80	70	76	369 ^a	220
	118	2534	43	77	59	74	446 ^a	189 ^a	Super Station Wagon 9p	117	2966	42	80	70	76	369 ^a	220
	118	2545	43	77	59	74	446 ^a	189 ^a	Custom Sedan 4d	117	2682	42	80	70	76	369 ^a	220
	118	2659	43	77	59	74	446 ^a	189 ^a	Custom Station Wagon 6p	117	2986	42	80	70	76	369 ^a	220
	118	2683	43	77	59	74	446 ^a	189 ^a	Custom Station Wagon 9p	117	3111	42	80	70	76	369 ^a	220
	118	2740	43	77	59	74	446 ^a	189 ^a	Custom 400 Sedan 4d	117	2812	42	80	70	76	369 ^a	220
	118	2932	43	77	59	74	446 ^a	189 ^a									
THUNDERBIRD																	
Hardtop	113	4170	Std	Std	113	83	498 ^a	Std									
Convertible	113	4637	Std	Std	113	83	498 ^a	Std									

n is for Ford-O-Matic, Cruise-O-Matic is \$212.
shown, 6-cyl. engine for Meteor 600 and 800 and Commuter Station Wagon is Automatic transmission with 6-cyl. engine is \$180.

—V-8 prices shown (except Valiant), 6 cyl. cars are \$119 less than same model V-8.
—V-8 shown, 6 cyl. is \$135 less. 6 cyl. automatic transmission is \$166.
—Price given is for PowerFlite. TorqueFlite transmission is \$211.

[MORE SPECIFICATIONS, PAGE 102

Sales Data on 1961 Passenger Cars

ENGINE, PERFORMANCE DATA..POWER KITS..AXLE RATIO..TIRE SIZES

continued from page 101

MAKE AND MODEL	Cylinder and Valve Arrangement	Bore and Stroke	Piston Displacement Cu. In.	Horsepower Taxable	Maximum Brake Hp @ RPM in Hundreds	Maximum Torque Lb.-Ft. @ RPM in Hundreds	With Power Kit or Optional Engine		Compression Ratio		Rear Axle Ratio			Tire Size	Horsepower per Cu. In. Displacement	Lb. Weight per Hp	Engine Revs. per Mile	
							Max. Brake Hp @ RPM in Hundreds	Max. Torque Lb.-Ft. @ RPM in Hundreds	Standard	Optional	With 3-Speed Transmission	With Auto. Transmission	With Overdrive				3-Speed Trans.	Auto. Trans. Overdrive Engaged
Buick Special	80	3 1/2 x 2 1/4	215	39.20	155@44	220@44	185@48	230@28	8.80	10.25	3.36	3.08	No	6.50x13	72	16.9	2876	2636 No
Buick LeSabre	80	4 1/4 x 3 3/4	364	54.45	250@44	384@24	300@44	405@28	10.25	No	No	3.07	No	7.00x15	69	16.4	No	2256 No
Buick Invicta, Electra	80	4 1/4 x 3 1/4	401	56.11	325@44	445@28	No	No	10.25	No	No	3.23	No	7.00x15a	81	12.8*	No	2374b No
Cadillac 60, 62	80	4 x 3 1/2	390	51.20	325@48	430@31	No	No	10.50	No	No	2.94	No	8.00x15	83	14.5*	No	2120 No
Cadillac 75	80	4 x 3 1/2	390	51.20	325@48	430@31	No	No	10.50	No	No	3.36	No	8.20x15	83	16.5	No	2382 No
Checker L Head	6L	3 1/2 x 4 3/4	226	26.33	80@31	180@14	No	No	7.3	No	3.73	3.31	4.09	6.70x15	35	41.5	2868	2545 2008
Checker OHV	6O	3 1/2 x 4 3/4	226	26.33	122@40	192@18	No	No	8.0	No	3.73	3.31	4.09	6.70x15	53	27.5	2868	2545 2008
Chevrolet Corvair	6HO	3 1/2 x 2 1/4	145	28.40	80@44	128@23	98@46	132@28	8.0	9.0†	3.27	3.27	No	6.50x13	55	29.4	2789	2799 No
Chevrolet 6	6O	3 1/2 x 3 1/2	235.5	30.40	135@40	217@22	No	No	8.25	No	3.36	3.36	3.70	7.50x14	57	26.3	2651	2651 2045
Chevrolet V-8 283 cu. in.	80	3 1/2 x 3	283	48.00	170@42	275@22	230@48	300@30	8.50	9.60	3.36	3.36	3.70	7.50x14	60	19.5	2651	2651 2045
Chevrolet V-8 348 cu. in.	80	4 1/2 x 3 1/2	348	54.50	250@44	355@28	335@58	362@36	9.50	11.00	3.36	3.08	No	7.50x14	72	14.3	2651	2430 No
Chevrolet Corvette	80	3 1/2 x 3	283	48.00	230@48	300@30	270@60	285@42	9.50	11.00	3.36	3.55	No	6.70x15	81	12.4	2812	2698 No
Chrysler Newport	80	4 1/4 x 3 3/4	361	52.00	265@44	410@24	No	No	9.00	No	3.23	2.93	No	8.00x14	73	14.0	2690	2227 No
Chrysler Windsor	80	4 1/4 x 3 3/4	383	52.00	305@46	425@28	No	No	10.00	No	3.23	2.93	No	8.00x14a	79	12.2	No	2188 No
Chrysler New Yorker	80	4 1/4 x 3 3/4	413	55.90	350@46	470@28	No	No	10.10	No	2.93	3.23	No	8.50x14a	85	11.6	No	2145 No
Chrysler 300G	80	4 1/4 x 3 3/4	413	55.90	375@50	495@28	400@52	465@36	10.10	No	3.23	3.23	No	8.00x15	90	11.3	2188	2188 No
Comet	6O	3 1/2 x 2 1/2	144	29.40	85@42	134@20	101@44	156@24	8.7	No	3.50	3.50	No	6.00x13a	58	28.2	3139	3139 No
Dodge Lancer	6O	3 1/2 x 3 1/4	170	27.70	101@44	155@24	145@40	215@28	8.20	No	3.55	3.23	No	6.50x13	59	17.0	3039	2765 No
Dodge Dart 6	6O	3 1/2 x 4 1/4	225	27.70	145@40	215@28	No	No	8.20	No	3.54	3.31	No	7.00x14a	64	23.0	2814	2631 No
Dodge Dart V-8	80	3 1/2 x 3 1/2	318	48.90	230@44	340@24	260@44	345@28	9.00	No	3.58	3.31	No	7.50x14a	72	15.2	2778	2599 No
Dodge Polara V-8	80	4 1/2 x 3 1/2	361	54.40	265@44	380@24	No	No	9.0	No	3.23	2.93	No	8.00x14	73	13.9	2455	2227 No
Dodge D-500 Engine	80	4 1/2 x 3 1/2	383	57.80	325@46	425@28	330@48	460@48	10.0	No	3.58	3.23	No	8.00x14	85		2721	2454 No
Ford Falcon	6O	3 1/2 x 2 1/2	144	29.40	85@42	134@20	101@44	156@24	8.7	8.7	3.10	3.50	No	6.00x13a	59	26.9	2780	3139 No
Ford 6	6O	3 1/2 x 3 1/2	223	31.54	135@40	200@20	No	No	8.40	No	3.56	3.56	3.89	7.50x14†	60	24.9	2791	2791 2175
Ford V-8 292 cu. in.	80	3 1/2 x 3 1/2	292	45.00	175@42	279@22	No	No	8.80	No	3.56	3.00	3.89	7.50x14†	59	20.3	2791	2430 2175
Ford V-8 352 cu. in.	80	4 x 3 1/2	352	51.20	220@44	336@24	No	No	8.90	No	3.56	3.00	3.56	7.50x14†	62	15.9	2798	2281 2014
Ford V-8 390 cu. in.	80	4 1/2 x 3 1/2	390	52.50	300@46	427@28	375@60	427@34	9.60	10.6	3.56	3.00	3.56	7.50x14†	76	12.7	2856	2393 2033
Imperial	80	4 1/2 x 3 3/4	413	55.90	350@46	470@28	No	No	10.10	No	No	2.93	No	8.20x15	85	13.5	No	2063 No
Lincoln Continental	80	4 1/2 x 3 1/2	430	59.17	300@41	465@20	No	No	10	No	No	2.89	No	9.00x14	69	16.2	No	2147 No
Mercury 6	6O	3 1/2 x 3 1/2	223	31.54	135@40	200@20	No	No	8.4	No	3.56	3.56	3.89	7.50x14	60	17.0	2798	2798 2139
Mercury V-8 292 cu. in.	80	3 1/2 x 3 1/2	292	45.00	175@42	279@22	No	No	8.8	No	3.56	3.00	3.89	7.50x14†	59	12.7	2798	2358 2139
Mercury V-8 352 cu. in.	80	4 x 3 1/2	352	51.20	220@44	336@24	No	No	8.8	No	3.56	3.00	No	7.50x14†	62	17.1	2798	2358 No
Mercury V-8 390 cu. in.	80	4 1/2 x 3 1/2	390	52.50	300@46	427@28	375@60	427@34	9.60	10.6	No	3.00	No	7.50x14†	76	12.3	2798	2358 No
Oldsmobile F85	80	3 1/2 x 2 1/4	215	39.20	155@48	210@32	No	No	8.75	No	3.07	3.23	No	6.50x13	72	17.3	1962	2044 No
Oldsmobile 88	80	4 1/4 x 3 1/4	394	54	250@42	405@24	275@42	415@24	8.75	9.75	3.42	2.87	No	8.00x14	63	16.0	2582	2167 No
Oldsmobile Super 88, 98	80	4 1/4 x 3 1/4	394	54	325@46	435@28	No	No	10	10	3.42‡	3.08‡	No	8.00x14a	82	12.5	2582	2325‡ No
Plymouth Valiant	6O	3 1/2 x 3 1/4	170	27.74	101@44	155@24	148@52	153@42	8.20	No	3.55	3.23	No	6.50x13	59	14.9	3039	3039 No
Plymouth 6	6O	3 1/2 x 4 1/4	225	27.7	145@40	215@28	No	No	8.50	No	3.54	3.31	No	7.00x14b	57	24.8	2744	2565 No
Plymouth V-8 318 cu. in.	80	3 1/2 x 3 1/2	318	48.90	230@44	340@24	260@44	345@28	9.00	No	3.54	3.31	No	7.50x14b	72	14.9	2742	2565 No
Plymouth V-8, 361 cu. in.	80	4 1/2 x 3 1/2	361	54.30	305@48	395@30	310@48	435@28	10.00	No	3.31	2.93	No	7.50x14	84	11.2	2565	2271 No
Pontiac Tempest	4O	4 1/4 x 3 1/4	194.5	26.40	110@38	190@20	155@46	220@24	8.6	8.8	3.55	3.08	No	6.00x15	56	25.4	2822	2758 No
Pontiac Cat., Ven., S. Chief	80	4 1/4 x 3 3/4	389	52.80	215@36	390@20	348@48	430@32	8.60	10.25	3.23	3.08	No	8.00x14	55	18.6	2419	2322 No
Pontiac Bonneville	80	4 1/4 x 3 3/4	389	52.80	235@36	402@20	348@48	430@32	8.60	10.25	3.23	3.08	No	8.00x14	60	14.4	2306	2322 No
Rambler American	6L	3 1/2 x 4 1/4	195.6	23.44	90@38	160@16	125@42	180@16	8.00	No	3.31	3.31	3.78	6.00x15	46	28	2615	2615 2094
Rambler Amer. Custom	6O	3 1/2 x 4 1/4	195.6	23.44	125@42	180@16	No	No	8.70	No	2.87	2.87	3.31	6.00x15	63	20.1	2661	2307 1862
Rambler Classic 6	6O	3 1/2 x 4 1/4	195.6	23.44	127@42	180@16	138@45	185@18	8.70	No	3.78	3.31	4.11	6.50x15	65	23.2	2892	2532 2196
Rambler Classic V-8	80	3 1/2 x 3 1/2	250	39.20	200@49	245@25	215@49	260@25	8.70	No	4.10	3.15	4.10	7.50x14	80	16.4	3190	2450 2233
Rambler Amb. V-8	80	4 x 3 1/4	327	51.20	250@47	340@26	270@47	360@26	8.70	No	3.54	2.87	3.54	8.00x14	76	13.7	2708	2409 1954
Studebaker Lark 6	6O	3x4	169.6	21.00	112@45	154@20	No	No	8.50	No	3.73	3.73	4.10	6.00x15	66	16.0	2965	2965 3259
Studebaker Lark V-8	80	3 1/2 x 3 1/2	259.2	40.60	180@45	260@28	195@45	265@30	8.80	No	3.07	3.07	3.54	6.50x15	69	11.3	2549	2364 2549
Studebaker Hawk V-8	80	3 1/2 x 3 1/2	289	40.60	210@45	300@28	225@45	305@30	8.80	No	3.31	3.07	3.54	6.70x15	72	11.0	2492	2312 2666
Thunderbird	80	4 1/2 x 3 1/2	390	52.50	300@46	427@28	No	No	9.6	No	No	2.91	No	8.00x14	76	12.9	No	2261 No

a—Invicta figure given, Electra is 8.00x15

b—Invicta figure given, Electra is 2335

c—Suburbans 7.50x14, 9-passenger Suburban, 8.00x14

O—Overhead valve

*—Engine option

H—Horizontal opposed

†—8.50x14 on Newport Station Wagon, 9.00x14 on New Yorker Station Wagon

t—Monza with Powerglide

‡—Station Wagons 6.50x13

§—Oldsmobile 98, 3-speed transmission not available, tire size—8.50x14, axle ratio with Hydra-Matic—3.23, lb. Wt. per Hp—12.9, Engine Rev. per Mi 2374

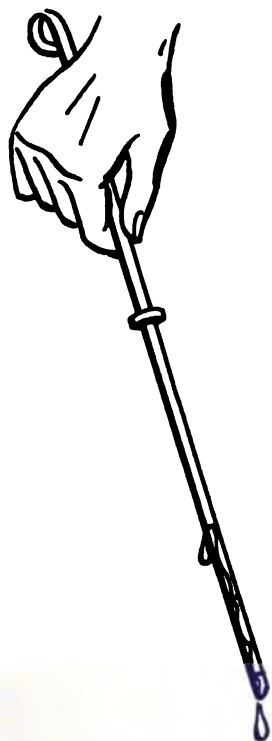
†—Station Wagons have 8.00x14 tires

‡—PowerFlite ratio given. Torque Flite is 2.93

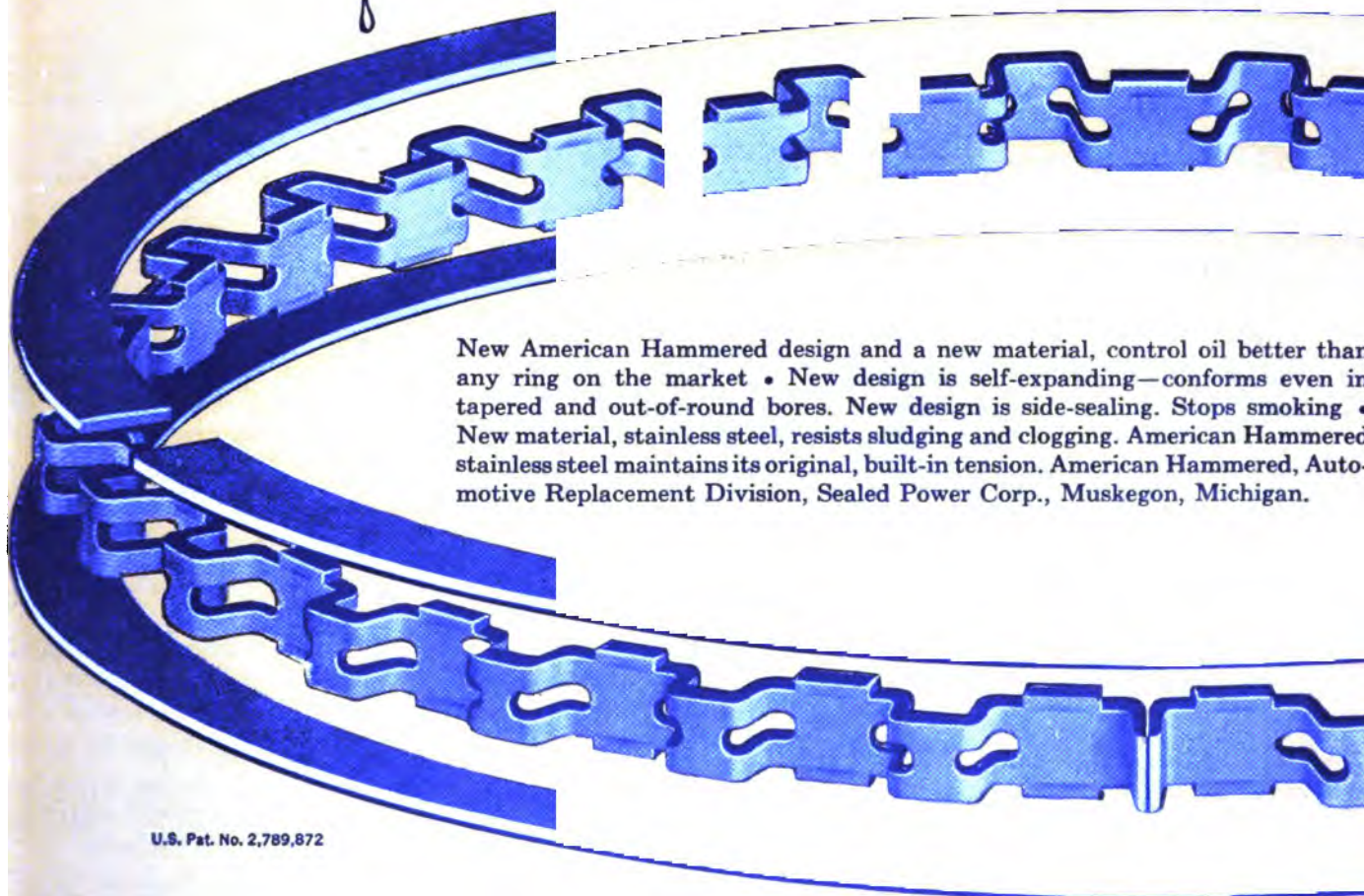
▲—Invicta figure given, Electra is 12.3

■—Series 60 figure given. Series 62 is 14.3

[MORE SPECIFICATIONS, PAGE 104]



They control oil



New American Hammered design and a new material, control oil better than any ring on the market • New design is self-expanding—conforms even in tapered and out-of-round bores. New design is side-sealing. Stops smoking • New material, stainless steel, resists sludging and clogging. American Hammered stainless steel maintains its original, built-in tension. American Hammered, Automotive Replacement Division, Sealed Power Corp., Muskegon, Michigan.

U.S. Pat. No. 2,789,872

AMERICAN HAMMERED

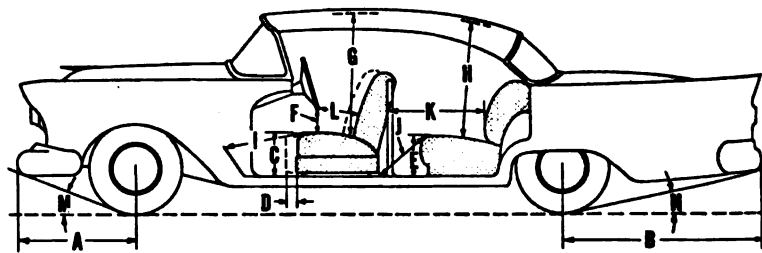
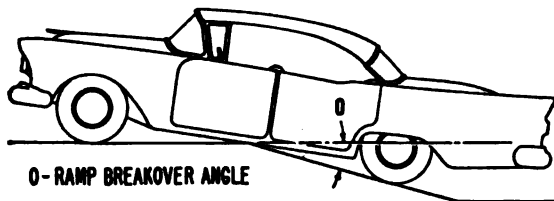


stainless steel oil rings

Important Dimensions...Body...Chassis

continued from page 102

Four-Door Sedans except as Noted



MAKE AND MODEL	EXTERIOR DIMENSIONS										INTERIOR DIMENSIONS													
	Shipping Weight	Wheelbase	Overall Length Incl. Bumper	Width	Height	TREAD		Front Overhang	Rear Overhang	Approach Angle (Deg.)	Departure Angle (Deg.)	Ramp Angle (Deg.)	Front Seat Hip Room	Rear Seat Hip Room	Height of Front Seat Cushion	Front Seat Horizontal Adjustment	Height of Rear Cushion	Distance Steering Wheel to Cushion	Head Room at Front Seat	Head Room at Rear Seat	Leg Room in Front Seat	Leg Room in Rear Seat	Back of Front Seat to Back of Rear Seat	Steering Wheel to Back of Front Seat
						Front	Rear																	
Buick Special	2632	112	188 3/4	71 1/2	52 1/2	56	56	31	45 3/4	26 3/4	16 1/4	12 3/4	58 3/4	58 1/4	11 1/2	4 1/2	12 1/2	44	33 1/2	33 1/2	44 1/2	37 1/2	36 1/2	13 1/2
Buick LeSabre	4102	123	213 1/2	78	56 1/2	62	61	32 1/2	57 1/2	27 3/4	13 3/4	11 3/4	63 1/2	63 1/2	11	4 1/2	13 3/4	53 1/2	34 1/2	34 1/2	44 1/2	41 1/2	28 1/2	14 1/2
Buick Invicta	4179	123	213 1/2	78	56 1/2	62	61	32 1/2	57 1/2	27 3/4	13 3/4	11 3/4	63 1/2	63 1/2	11	4 1/2	13 3/4	53 1/2	34 1/2	34 1/2	44 1/2	41 1/2	28 1/2	14 1/2
Buick Electra	4298	126	219 1/2	78	57 1/2	62	61	32 1/2	60 1/2	28 3/4	12 3/4	11 3/4	63 1/2	63 1/2	11 1/2	4 1/2	13 3/4	53 1/2	34 1/2	34 1/2	44 1/2	41 1/2	31 1/2	14 1/2
Cadillac 62	4660	129 1/2	222	79 1/2	56 1/2	61	61	34 1/2	60 1/2	21 1/2	12 1/2	12 1/2	63 1/2	63 1/2	12 1/2	4 1/2	14 1/2	47 1/2	34 1/2	34 1/2	46	44 1/2	31 1/2	15 1/2
Cadillac 60	4715	129 1/2	222	79 1/2	56 1/2	61	61	34 1/2	60 1/2	21 1/2	12 1/2	12 1/2	63 1/2	63 1/2	12 1/2	4 1/2	14 1/2	47 1/2	34 1/2	34 1/2	46	44 1/2	30 1/2	15 1/2
Cadillac 75	5390	149 1/2	242 1/2	80 1/2	59 1/2	61	61	34 1/2	60 1/2	23 1/2	13 1/2	12 1/2	65 1/2	60 1/2	10 1/2	4 1/2	13 1/2	53 1/2	36 1/2	34 1/2	44 1/2	NS	26 1/2	14 1/2
Chevrolet Superba	3320	120	202	76	62 1/2	60	62 1/2	32 1/2	46 1/2	18	16	14	62 1/2	52 1/2	13	5	13	6 1/2	34 1/2	34 1/2	42	48	42 1/2	15
Chevrolet Corvair	2355	108	180	67	51 1/2	64	64	30 1/2	41 1/2	27	16	16	58 1/2	57	10	4	11 1/2	15	33 1/2	33 1/2	44	36 1/2	25 1/2	15
Chevrolet Biscayne, Bel Air, Impala	3508	119	209 1/2	78 1/2	55 1/2	60 1/2	59 1/2	32 1/2	57 1/2	27	13	11	63 1/2	63 1/2	11	4 1/2	14	8	34 1/2	34	45	42	29	14
Chevrolet Corvette	2905	102	177 1/2	70 1/2	52 1/2	57	59	33	42 1/2	21	21	7	59 1/2	No	7 1/2	4 1/2	No	5 1/2	37 1/2	No	46 1/2	No	No	16 1/2
Chrysler Newport	3710	122	215 1/2	79 1/2	55	61	59 1/2	34 1/2	58 1/2	15 1/2	10 1/2	12 1/2	63 1/2	62 1/2	11 1/2	4 1/2	13	5 1/2	37 1/2	38 1/2	45 1/2	42 1/2	29 1/2	15 1/2
Chrysler Windsor	3730	122	215 1/2	79 1/2	55	61	59 1/2	34 1/2	58 1/2	16 1/2	10 1/2	12 1/2	63 1/2	62 1/2	11 1/2	4 1/2	13	5 1/2	37 1/2	38 1/2	45 1/2	42 1/2	29 1/2	15 1/2
Chrysler New Yorker	4055	126	219 1/2	79 1/2	55 1/2	61 1/2	60	34 1/2	59 1/2	16	11	10 1/2	63 1/2	62 1/2	11 1/2	4 1/2	13	5 1/2	37 1/2	38 1/2	45 1/2	42 1/2	29 1/2	15 1/2
Chrysler 300G	4260	126	219 1/2	79 1/2	55 1/2	61 1/2	60	34 1/2	59 1/2	16 1/2	10 1/2	10 1/2	63 1/2	62 1/2	11 1/2	4 1/2	11 1/2	6 1/2	33 1/2	33 1/2	45 1/2	35 1/2	28 1/2	16 1/2
Comet	2411	114	194 1/2	70 1/2	54 1/2	55	54 1/2	30 1/2	50	23 1/2	12 3/4	12 3/4	57	57	11 1/2	4	14 1/2	5 1/2	33 1/2	32 1/2	43 1/2	39 1/2	27 1/2	13
Dodge Lancer	2595	106 1/2	188 1/2	72 1/2	53 1/2	56	55 1/2	32 1/2	49 1/2	23 1/2	12 3/4	11 3/4	56 1/2	56 1/2	11 1/2	4 1/2	13 1/2	6 1/2	33 1/2	33 1/2	42 1/2	39 1/2	27 1/2	15 1/2
Dodge Dart	3515	118	209 1/2	78 1/2	54 1/2	61 1/2	60 1/2	33 1/2	58	18 1/2	9 1/2	12 1/2	63 1/2	62 1/2	11 1/2	4 1/2	13 1/2	6	33 1/2	33 1/2	45 1/2	42 1/2	28 1/2	15 1/2
Dodge Polara	3700	122	212 1/2	78 1/2	54 1/2	61 1/2	60 1/2	33 1/2	57	17 1/2	10 1/2	12 1/2	63 1/2	62 1/2	11 1/2	4 1/2	13 1/2	6	33 1/2	33 1/2	45 1/2	42 1/2	30 1/2	15 1/2
Ford Falcon	2289	109 1/2	181 1/2	70 1/2	54 1/2	55	54 1/2	29 1/2	42 1/2	25 1/2	15 1/2	13 1/2	57 1/2	57	11 1/2	4	14 1/2	5 1/2	33 1/2	32 1/2	43 1/2	39 1/2	27 1/2	13
Ford Fairlane, Fairlane 500, Galaxie	3683	119	209 1/2	79 1/2	55	61	60	32 1/2	58 1/2	21 1/2	11 1/2	11 1/2	62 1/2	63 1/2	9 1/2	5 1/2	13 1/2	5 1/2	33 1/2	32 1/2	43 1/2	41 1/2	31 1/2	12 1/2
Imperial	4740	129	227 1/2	81 1/2	56 1/2	61 1/2	62 1/2	39 1/2	57 1/2	15 1/2	10 1/2	13 1/2	61	60 1/2	11	5	12 1/2	6 1/2	34 1/2	33 1/2	46 1/2	42 1/2	31 1/2	18 1/2
Lincoln Continental	4887	123	212 1/2	78 1/2	53 1/2	62 1/2	61 1/2	36 1/2	52 1/2	21 1/2	12 1/2	11 1/2	59 1/2	60 1/2	10 1/2	5 1/2	13 1/2	5 1/2	33 1/2	33 1/2	44 1/2	40 1/2	28 1/2	14 1/2
Mercury	3714	120	214 1/2	79 1/2	55	61	60	35 1/2	60 1/2	19 1/2	11	11 1/2	62 1/2	63 1/2	9 1/2	5 1/2	13 1/2	5 1/2	33 1/2	33 1/2	43 1/2	41 1/2	31 1/2	12 1/2
Oldsmobile F85	2695	112	188 1/2	71 1/2	52 1/2	56	56	30 1/2	45 1/2	27 1/2	17 1/2	18 1/2	58 1/2	58 1/2	12 1/2	3 1/2	11 1/2	5 1/2	34	33 1/2	44	37 1/2	26 1/2	13 1/2
Oldsmobile 88, Super 88	4024	123	212	77 1/2	55 1/2	61	61	32 1/2	56 1/2	29 1/2	12 1/2	11 1/2	63 1/2	63 1/2	12 1/2	4 1/2	13 1/2	6 1/2	34 1/2	34 1/2	45 1/2	41 1/2	28 1/2	13 1/2
Oldsmobile 98	4208	126	218	77 1/2	55 1/2	61	61	32 1/2	59 1/2	29 1/2	11 1/2	11 1/2	63 1/2	63 1/2	12 1/2	4 1/2	13 1/2	6 1/2	35 1/2	34 1/2	44 1/2	44 1/2	32 1/2	13 1/2
Plymouth Valiant	2590	106 1/2	183 1/2	70 1/2	53 1/2	56	55 1/2	29 1/2	48	21 1/2	13 1/2	11 1/2	56 1/2	56 1/2	11 1/2	4 1/2	13 1/2	6 1/2	33 1/2	33 1/2	42 1/2	39 1/2	27 1/2	15 1/2
Plymouth	3465	118	209 1/2	80	54 1/2	60 1/2	59 1/2	36 1/2	55 1/2	17 1/2	11 1/2	12 1/2	63 1/2	62 1/2	11 1/2	4 1/2	13 1/2	6	33 1/2	33 1/2	45 1/2	42 1/2	29 1/2	16 1/2
Pontiac Tempest	2800	112	189 1/2	72 1/2	53 1/2	56 1/2	56 1/2	31 1/2	45 1/2	26	17	12	58 1/2	58 1/2	10 1/2	4 1/2	12 1/2	4 1/2	34	33 1/2	44 1/2	37 1/2	26 1/2	15 1/2
Pontiac Catalina, Ventura	3725	119	210	78 1/2	55 1/2	62 1/2	62 1/2	34	57	23 1/2	13 1/2	13 1/2	63 1/2	63 1/2	12	4 1/2	13 1/2	6 1/2	34 1/2	34 1/2	45 1/2	40 1/2	27 1/2	18
Pontiac Star Chief	3870	123	217	78 1/2	55 1/2	62 1/2	62 1/2	34	60	23 1/2	12 1/2	13 1/2	63 1/2	63 1/2	12	4 1/2	13 1/2	6	34 1/2	34	45 1/2	40 1/2	27 1/2	15 1/2
Pontiac Bonneville	3895	123	217	78 1/2	55 1/2	62 1/2	62 1/2	34	60	23 1/2	12 1/2	13 1/2	63 1/2	63 1/2	12	4 1/2	13 1/2	6	34 1/2	33 1/2	44 1/2	40 1/2	27 1/2	15 1/2
Rambler American	2830	100	173 1/2	70	56 1/2	54 1/2	55	28 1/2	44 1/2	24 1/2	14 1/2	14 1/2	58	45 1/2	9 1/2	6.0	12	5 1/2	35	33	44	37 1/2	25 1/2	14 1/2
Rambler Classic 6	2980	108	189 1/2	72 1/2	57 1/2	57 1/2	57 1/2	32 1/2	49 1/2	21 1/2	14 1/2	14 1/2	59 1/2	60 1/2	10 1/2	6.0	14 1/2	5 1/2	36	34 1/2	43	40	26 1/2	14 1/2
Rambler Classic V-8	3290	108	189 1/2	72 1/2	57 1/2	58 1/2	58 1/2	32 1/2	49 1/2	21 1/2	13 1/2	13 1/2	59 1/2	60 1/2	10 1/2	6.0	14 1/2	5 1/2	36	34 1/2	43	40	26 1/2	14 1/2
Rambler Ambassador V-8	3430	117	199	73 1/2	56 1/2	57 1/2	59 1/2	32 1/2	49 1/2	21 1/2	13 1/2	12 1/2	59 1/2	60 1/2	10 1/2	6.0	14 1/2	5 1/2	36	34 1/2	43	40	26 1/2	14 1/2
Studebaker Lark	2665	108 1/2	175	71 1/2	56 1/2	57 1/2	56 1/2	26 1/2	40 1/2	28 1/2	17 1/2	12 1/2	59 1/2	59	12	5 1/2	11 1/2	6 1/2	35 1/2	34 1/2	43 1/2	40	29	13 1/2
Studebaker Hawk	3207	120 1/2	204	71 1/2	55 1/2	57 1/2	56 1/2	34 1/2	48 1/2	20	17	14	59 1/2	58	10 1/2	5 1/2	9 1/2	6 1/2	34 1/2	33 1/2	44	37	27 1/2	13 1/2
Thunderbird	3887	113	205	75 1/2	52 1/2	61	60	38 1/2	53 1/2	19	12 1/2	11 1/2	59	52 1/2	12 1/2	.70	12 1/2	6 1/2	34 1/2	33 1/2	44 1/2	37 1/2	26 1/2	14 1/2

c-6 cyl. Figures given, Lark V-8 weighs—2941

x-Dimensions and weight based on 2d Hardtop

y-Dimensions and weight based on Convertible

NS—Not specified

O—Fairlane 500—3801, Galaxie—3668

L—L head engine figure given. OHV engine weight is 3350

Electra 226 is 4529 lb.

*—V-8 weight given for Seneca model. Pioneer is 3510, Phoenix is 3535 lb., 6 cyl. Seneca and Pioneer is 3335, Phoenix is 3350 lb.

†—Biscayne V-8 figure given, Bel Air is 3520, Impala 3525,

6 cyl. Biscayne 3500, Bel Air 3515, Impala 3530

—Not applicable. Individual seats.

*—Super 88—4063

#—8 cyl. Savoy given. Belvedere is 3470 lb., Fury is 3515 lb., 6 cyl. Savoy is 3310, Belvedere 3315 and Fury 3350 lb.

—Catalina figure given.

Ventura Vista 4 dr. htp. is 3705.

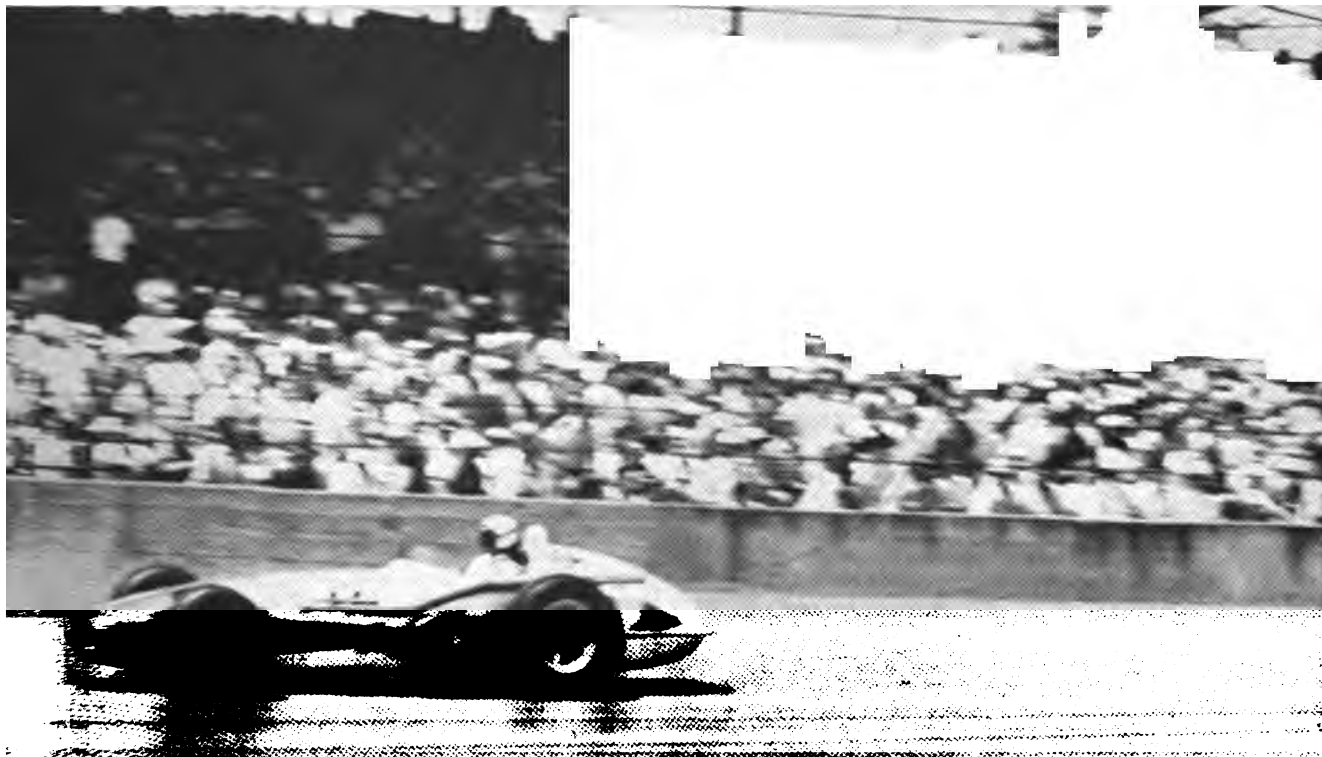
—Vista 4 dr. htp. figure given.

—Figure given in 4 dr. htp.

Passenger

the last 12 years!

'500' in record time— plugs!



A. J. Foyt, Jr., comes charging out of the pits to drive his Champion-sparked Bowes Seal Fast Special to a record-cracking victory at Indy, averaging 139.130 mph! Foyt and owner-mechanic George Bignotti also chose Champion spark plugs to drive the 1960 Championship circuit, where Foyt won the National Championship.

toughest, most demanding engine conditions imaginable!

Chances are your customers will never place such rugged demands on the spark plugs in their engines—but Champion's ability to deliver smooth, full-firing performance under the most extreme conditions is there it's needed. Why settle for anything less?

Take a tip from the Brickyard—the world's toughest proving ground for automotive parts—and always recommend and install dependable *Champion* spark plugs—every make of car!



PLUG COMPANY • TOLEDO 1, OHIO

MOTOR, July 1961

21

We supply all
RADIATOR

SERVICE NEEDS

FLEX-LIFT
RADIATOR POSITIONER

gives your business a lift



FLEX-LIFT is not just a lift — it is a positioner that lifts, lowers, turns, rotates — all with amazing ease — so that the radiator is always 100 per cent accessible. FLEX-LIFT is fool-proof and trouble free, saves one-third of your working time. Profitably used in more than 2,000 shops.

Three models — Two are hydraulics — 250 and 500 lbs. capacity — also electric hydraulic with 750 lbs. capacity.

Barbee equipment, accessories and chemicals supply every need for the Radiator Repair Trade.

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trouble free
inline
gas filters

with
micro-BRONZE®
filter element



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FUEL PUMPS AND IGNITION PARTS SINCE 1920



FILTERS dirt and water
FLOWS free and clean
— never dumps residue
FITS all cars . . . 3 sizes,
with hose and clamps

Things to Come

DEALER CONVENTIONS

- Aug. 20-21 Wyoming, Jackson
- Aug. 20-23 West Virginia, White Sulphur Springs
- Sept. 13 Vermont, Stowe
- Oct. 22-24 New York, Kiamesha Lake
- Oct. 22-24 New Jersey, Atlantic City
- Oct. 29-31 Florida, Ft. Lauderdale
- Dec. 4 Utah, Salt Lake City
- Dec. 4-5 Minnesota, Minneapolis
- Dec. 8-9 Montana, Billings
- Feb. 3-7 National Automobile Dealers Assn., Atlantic City

PARTS AND EQUIPMENT SHOWS

- July 31- National Auto Accessory and
- Aug. 2 Parts Exhibit, Las Vegas, Nev.
- Oct. 23-26 Fleet Maintenance Exposition, New York
- Feb. 28- International Automotive Service
- Mar. 3 Industries Show, Chicago
- Mar. 22-25 Pacific Automotive Show, Portland, Ore.

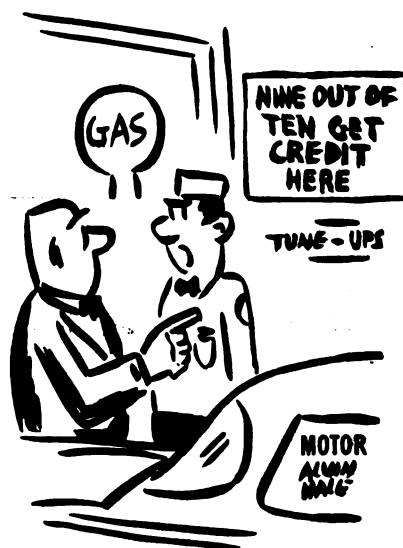
GENERAL

- Sept. 14-17 Assn. of Diesel Specialists Meeting, Minneapolis, Minn.
- Oct. 12-13 Western Engine Rebuilders Assn. Convention, Palm Springs, Cal.
- Oct. 29- National Lubricating Grease
- Nov. 1 Institute Meeting, Houston, Tex.
- Oct. 30- Automotive Warehouse Distributors Assn. Convention, Kansas City, Mo.
- Nov. 8-10 Automotive Parts Rebuilders Assn. Convention, Los Angeles

Mobile Lab Tests Car Coolants

A laboratory on wheels has been developed by the Dow Chemical Co. to test automotive coolants under actual operating conditions.

A fleet of 20 station wagons with divided radiators and dual cooling systems, available to jobbers in major markets, is carrying Dow's story of proper cooling system care to dealers this summer.



"Sorry, but you're the tenth!"

MOTOR, July 1961



Fram Oil Filters



Fram Corp., Providence 16, R.I., offers Model PH10 oil filter for use on all 1961 Oldsmobile and Buick models. It is an easy-change type filter which has a hex nut attached to the bottom of the filter case for easy removal and installation.

3M Cleaning Pads



Scotch-brite nylon web cleaning pads for scuffing acrylic lacquer and enamel surfaces prior to refinishing are offered by Minnesota Mining and Manufacturing Co., 900 Bush Ave., St. Paul 6, Minn. Measuring $9\frac{1}{2}$ by $6\frac{1}{4}$ by $\frac{1}{4}$ in., the pads are available in a fine grade No. 417 and the Ultra-Fine No. 418. No. 417 is recommended

New Products

...TO USE ... TO SELL

for enamels and No. 418 for acrylics. The pads reportedly will not splinter or shred and are handy for working on curved surfaces or hard-to-reach areas. Other uses are said to include chrome cleaning, removing oxide film from aluminum truck bodies and white sidewall tire cleaning.

Martin-Senour Filler



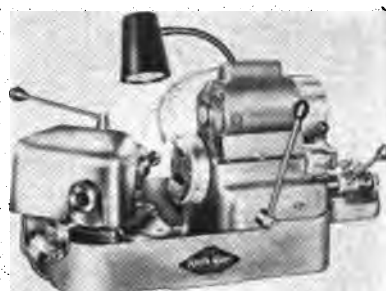
Blu-Flex, a polymetric body filler said to withstand road vibration and shock without losing adhesion or cracking, has been introduced by Martin-Senour Co., 2500 S. Senour Ave., Chicago, Ill. The manufacturer also reports the filler is almost completely dust-free during sanding and grinding. Packaged in a low quart can with a wide mouth for easy accessibility, it is supplied with a tube of hardener sealed beneath a plastic dome on the can lid.

Arrow Corvair Starters



Rebuilt starter motors for 1960-61 Chevrolet Corvair models are offered by Arrow Armatures Co., Fordham Rd., Boston 34, Mass. The company states all critical parts of each starter are renewed during the rebuilding operation.

Kwik-Way Valve Refacer



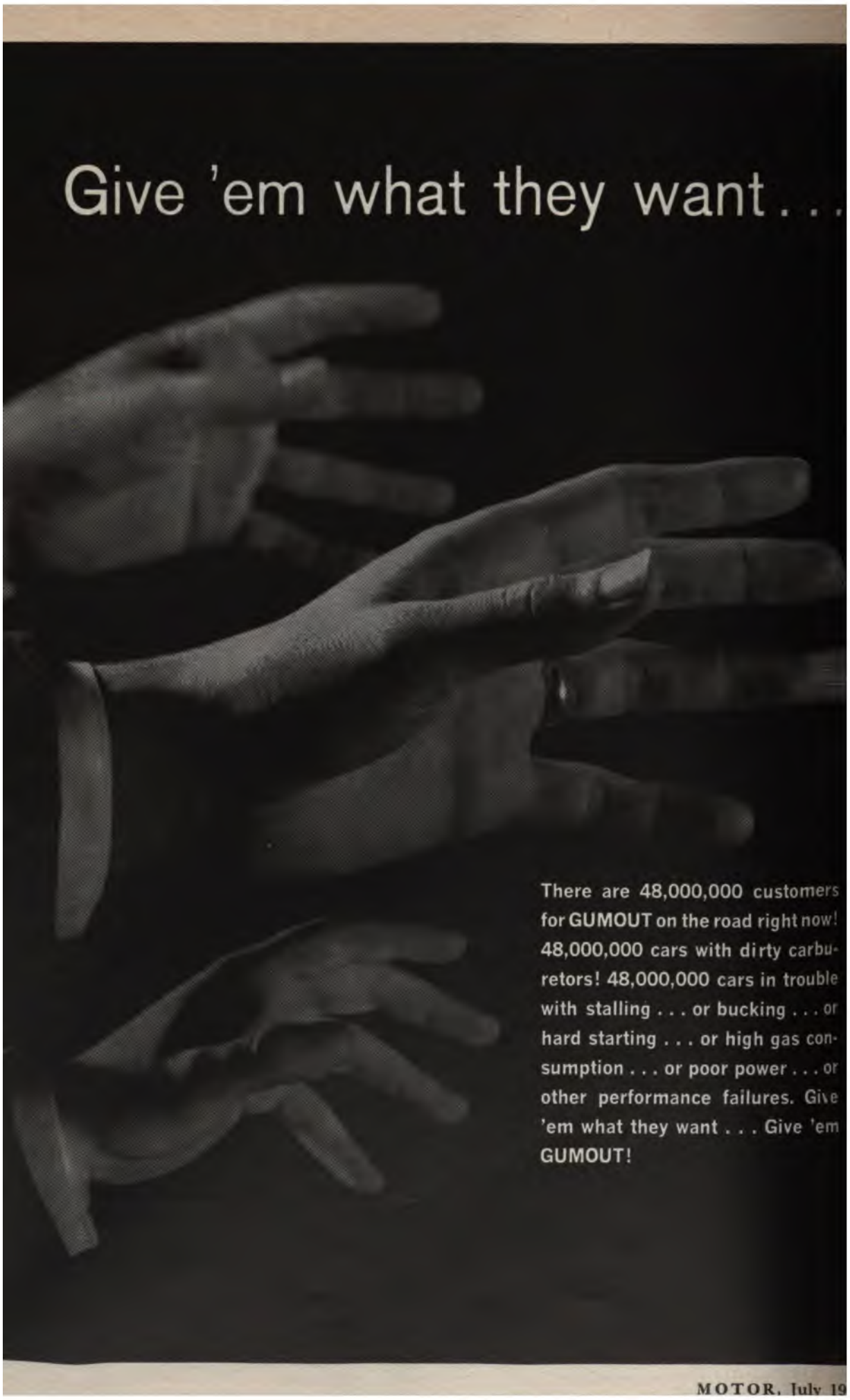
Cedar Rapids Engineering Co., 907 17th St. N.E., Cedar Rapids, Ia., offers its Kwik-Way Model VS valve refacer with a $\frac{1}{2}$ hp spindle motor and individual chuck and coolant pump motors. Other features are said to include an integral surface grinding mechanism and a 5 in. diameter wheel.

King Test Stand



King Electric Equipment Co., 9123 Inman Ave., Cleveland 5, Ohio, offers a series of generator, alternator and regulator test stands for use with 6, 12, 24 and 32 volt systems. Features include a diode protection circuit, which reportedly prevents costly damage to alternator diodes due to reversed battery connections, and an alternator-generator mounting fixture capable of accommodating units ranging from 3 to $7\frac{1}{4}$ in. long. Separate purchase of the drive unit only is available if desired by purchasers already owning volt-amp. testers, carbon pile or field rheostat.

[CONTINUED ON PAGE 116]



Give 'em what they want . . .

There are 48,000,000 customers for GUMOUT on the road right now! 48,000,000 cars with dirty carburetors! 48,000,000 cars in trouble with stalling . . . or bucking . . . or hard starting . . . or high gas consumption . . . or poor power . . . or other performance failures. Give 'em what they want . . . Give 'em GUMOUT!



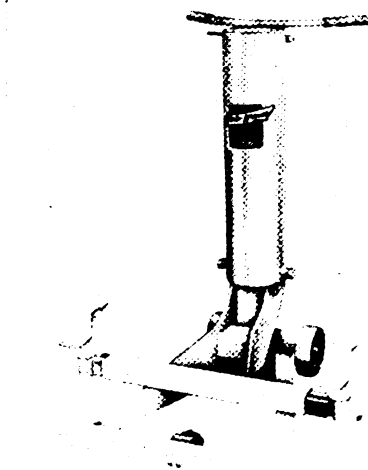
continued from page 113

Gates Tires



Gates Rubber Co., 999 S. Broadway, Denver 17, Col., offers its High Capacity line of premium tires, carrying a free replacement guarantee against road hazards and defects in workmanship or materials. According to company reports, the low profile tire, which is said to incorporate a harmonically silent tread design, will be replaced without cost in the event of failure as long as original tread pattern remains.

Hein-Werner Air Jack



Model AL-33 air jack with bi-level swivel saddles, automatic safety lock, and 34½ in. lifting height available from Hein-Werner

Corp., 1200 National Ave., Waukesha, Wis. The saddles, which adjust up to 56 in., provide secure load contact at recommended lifting points. Other features are a honed air cylinder which is pivoted to reduce piston binding, spring-suspended pivot wheel for easier spotting, and a safety lock to prevent accidental releasing of the load.

Johns-Manville Tapes



Dutch Brand Div. of Johns-Manville, 22 E. 40th St., New York 16, N.Y., has available carded and individually skin-packed rolls of electrical and friction tapes. Offered in rolls ½ in. wide and 12½ ft. long and ¾ in. wide by 20 ft. long, the electrical tapes have vinyl backing and high dielectric strength. Friction tape rolls are ¾ in. wide in lengths of 13 ft. and 30 ft.

Weatherhead Steering Kit



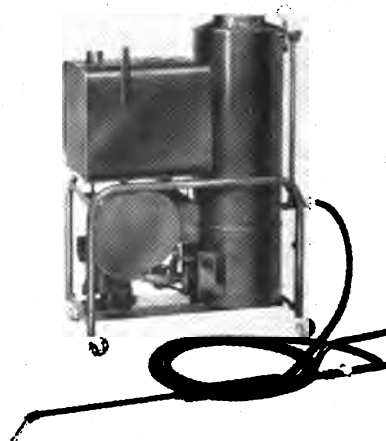
The Weatherhead Co., 300 E. 131st St., Cleveland 8, Ohio, announces its PST-5 power steering hose and adapter kit for truck, bus and tractor application. Designed for universal replacement of most pressure and return line hoses with minimum hose inventory, the kit includes 25 ft. of ⅝ in. I.D. wire-reinforced hose with pressure capacity up to 2,250 psi, eight ⅜ in. flareless connectors for adapting bent tube ends, six inverted male swivel fittings and two each ½ and ⅜ in. flared female swivel fittings.

Vaco Terminal Kit



A solderless terminal repair kit consisting of over 200 pieces of 10 popular types of solderless terminals, a No. 1900 crimping tool and a clear plastic storage box is offered by Vaco Products Co., 317 E. Ontario St., Chicago 11, Ill. The crimping tool, said to be an all-purpose tool, reportedly cuts and strips wire as well as crimping terminals.

Malsbary Steam Cleaner



Model 100 steam cleaner, designed as an auxiliary cleaner for garages, service stations, car and truck dealerships, is offered by Malsbary Manufacturing Co., 845 92d Ave., Oakland 3, Cal. Overall dimensions are 35 in. long, 19 in. wide and 53 in. high. Available in a caster-mounted, oil-fired model or a stationary gas-fired version, the 100 has a 60 to 100 lb. pressure range, air atomizing burner which eliminates smoke, and a nozzle orifice which eliminates fogging of the cleaning stream.

[CONTINUED ON PAGE 120]

NOW YOU CAN REALLY SELL SERVICE

TUNG-SOL **THE ONLY** **COMPLETE** **LIGHTING** **LINE**

For All Heavy Duty and Emergency
Vehicle Use In the New Yellow and
Black Box.



For Normal Passenger Car Use In
the Familiar Red and Blue Box.



It Makes Dollars and Sense . . . to handle Tung-Sol Heavy Duty and Standard headlamps, miniature lamps and flashers—the industry's only complete lighting service line. Here is your opportunity to boost your profits from lamp sales through greater service reliability. One solid source, one high quality and 100% coverage of your requirements are only a few of the benefits you'll receive with Tung-Sol—the profitable

lighting line. Install Tung-Sol, the line specified by leading independent manufacturers. See your Tung-Sol supplier for details. Tung-Sol Electric Inc., Newark 4, New Jersey.

 **TUNG-SOL®**
HEADLAMPS • MINIATURE LAMPS • FLASHERS

ANOTHER **THERMOID** BIG **T**



THERMOID Big **T** Fender Covers

Get this top-quality, sponge-rubber-backed fender cover—a \$6.45 value—for only \$2.98. Get this cost back quickly by selling the FREE BIG T FAN BELT or REDI-CURV radiator hose given you with every fender cover.

Check these quality features:

- ½" high ridges on crown of cover make an ideal recess to hold hand tools and small parts—a real timesaver.
- Nonslip, lightweight cover.
- Fabric reinforced neoprene top, sulphur-free sponge rubber backing, vulcanized into a one-piece construction.
- Improved cleaning—wipe with gas, upholstery cleaner or detergent.

HERE'S THE DEAL...

Buy 12 Thermoid Big T Quality Fan Belts or Redi-Curv Radiator Hose in any combination (6-6, 9-3, 10-2, 12-0, etc.)

This entitles you to a \$6.45 Quality Big T Fender Cover for only

One set Window Banners

One Fan Belt (V-29, V-123, V-180) or one Redi-Curv Radiator Hose (RC-505, RC-509, RC-526)

TOTAL

\$18.36*

2.98

FREE

FREE

\$21.34

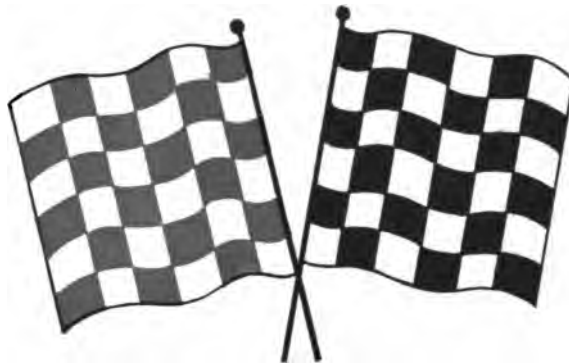
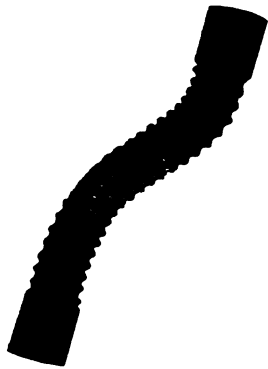
*Approximate

You Sell the FREE Big T Fan Belt or Radiator Hose and you more than pay for the Fender Cover.

Buy a minimum stock of hose and belts now for Spring and Summer sales and you'll receive a good supply of Big T Fender Covers.

Nothing could be easier—Equip your shop now with a complete set of these sturdy, high-quality fender covers.

PROFIT MAKING DEAL FOR YOU



'500' Quality "Redi-Curv" Hose

Winner of Indianapolis '500' in 1961 and every year since 1950.
• Specially Compounded Rubber . . . resists effects of oil, ozone, chemicals. • Maximum Cooling System Protection . . . can't chip or flake to clog radiator. • Always Fresh . . . resists aging on the shelf or on the car. • Heavy-Duty Construction . . . steel coil and tire cord reinforced for maximum strength and flexibility. • Maximum Coverage . . . every part number a fast mover.

Big **T** Quality Fan Belts

- One Premium Quality . . . minimum inventory dollars.
- Prestretched Construction . . . for longer life.
- Neoprene Jacketed . . . oil and grease resistant.
- Application Engineered . . . best fit for every drive.
- All-Service Coverage . . . includes off-highway use.

There's no limit—order as many deals as you need today—re-equip your shop now with all the fender covers you need—restock your shelves with "need it right now" merchandise for spring and summer driving—

Call your distributor
salesman today, or
send in the attached
coupon for the name
of your nearest **THERMOID**
BIG T distributor

Thermoid Division, Dept. 300
200 Whitehead Road, Trenton 6, New Jersey
You bet—I need some Fender Covers and I am
interested in the Fan Belt and REDI-CURV
Hose deal.

Name _____

Address _____

City _____ Zone _____ State _____

My usual jobber supplier is _____



THERMOID DIVISION
H. K. PORTER COMPANY, INC.
200 WHITEHEAD ROAD, TRENTON 6, NEW JERSEY



continued from page 116

Sun Secondary Tachometer



Sun Model ST 88 secondary tachometer for use on outboard, power mower, go-cart and industrial gas engines has been developed by Sun Electric Corp., 6341 Avondale Ave., Chicago 31, Ill. Designed for use on two and four-cycle engines, the portable unit is said to provide accurate rpm readings within a dual scale range of 0 to 800 rpm or 0 to 8,000 rpm through two connections between a spark plug and ground.

Autopulse Fuel Pump



Walbro Corp., Cass City, Mich., has available Autopulse Model PEG for mounting on passenger cars, trucks or marine engines. The lightweight metal pump, fabricated from three housings, is said to

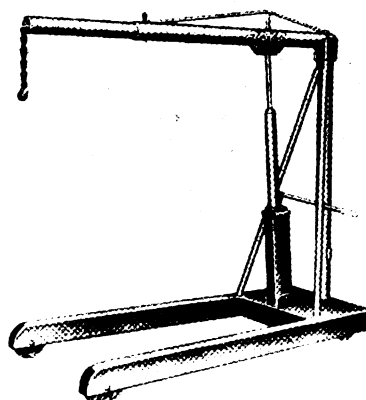
be rustproof, resistant to corrosion and capable of pumping 35 gal. per hour. Other features include universal mounting bracket and an in-line installation kit. The company states the pump prolongs battery life since it draws current only when needed and is not always on when the ignition is on.

Skil Polisher



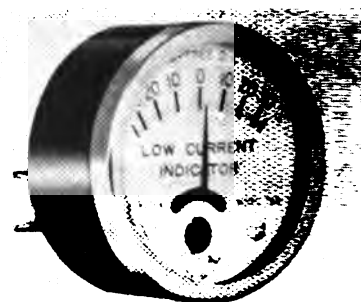
The Skil Model 120 electric polisher for sale to car owners is offered by Skil Corp., 5033 Elston Ave., Chicago 30, Ill. The polisher, equipped with a washable lamb's wool pad, has a thumb-tip switch, side handle and an 8 ft. power cord. Weighing 4 lb., Model 120 can reportedly be used with waxes, cleaners and polishes on all car finishes, and can also be used as a 1/4 in. drill or power unit for use with sanders, 5 in. circular saws, 6 in. grinders, jig saws and hedge trimmers.

Ausco Crane



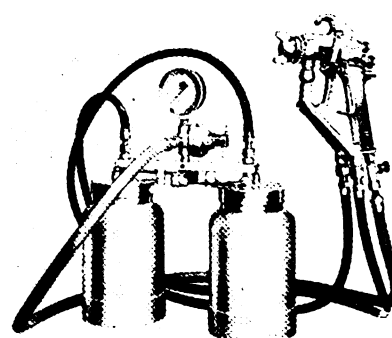
A mobile shop crane with a lifting capacity of two tons is offered by Auto Specialties Manufacturing Co., St. Joseph, Mich. Hydraulically operated, the crane has adjustable telescoping boom with chain and hook, ball-bearing casters and large front wheels. Other features include welded steel construction and waist-high handle location.

Hoyt Current Indicator



Burton Rogers Co., Sales Div. of Hoyt Electrical Instrument Works, Inc., 42 Carleton St., Cambridge 42, Mass., has available the Hoyt low current indicator No. 763, a compact-size tester which indicates the amount of current drain of lights, radio, horns and other electrical units. The indicator, which operates on induction as it is placed on the circuit wiring, requires no connections and reads as low as 1 amp., according to the company.

Binks Spatter Spray Unit



Binks Manufacturing Co., 3140 Carroll Ave., Chicago 12, Ill., has developed a spatter spray unit for two-color spatter paint applications. Unit consists of Model 19 spray gun connected to two 1 qt. or 2 qt. paint cups, air-adjusting valve, and necessary hoses and fittings. The company states the unit is especially suited for refinishing trunk interiors and many other applications.

Sturtevant Torque Wrench



Torque wrenches having a built-in signal mechanism which indi-

[CONTINUED ON PAGE 124]



NEW FROM QUAKER STATE: a cooling system protector that prevents corrosion and rust



It's Quaker State CSP—an all-new, ultra-modern cooling system protector *specially developed* to combat corrosion of the aluminum blocks, cylinder heads, water pumps, etc., in today's new cars! Extra good for regular cast-iron engines, too. CSP prevents formation of power-robbing scale

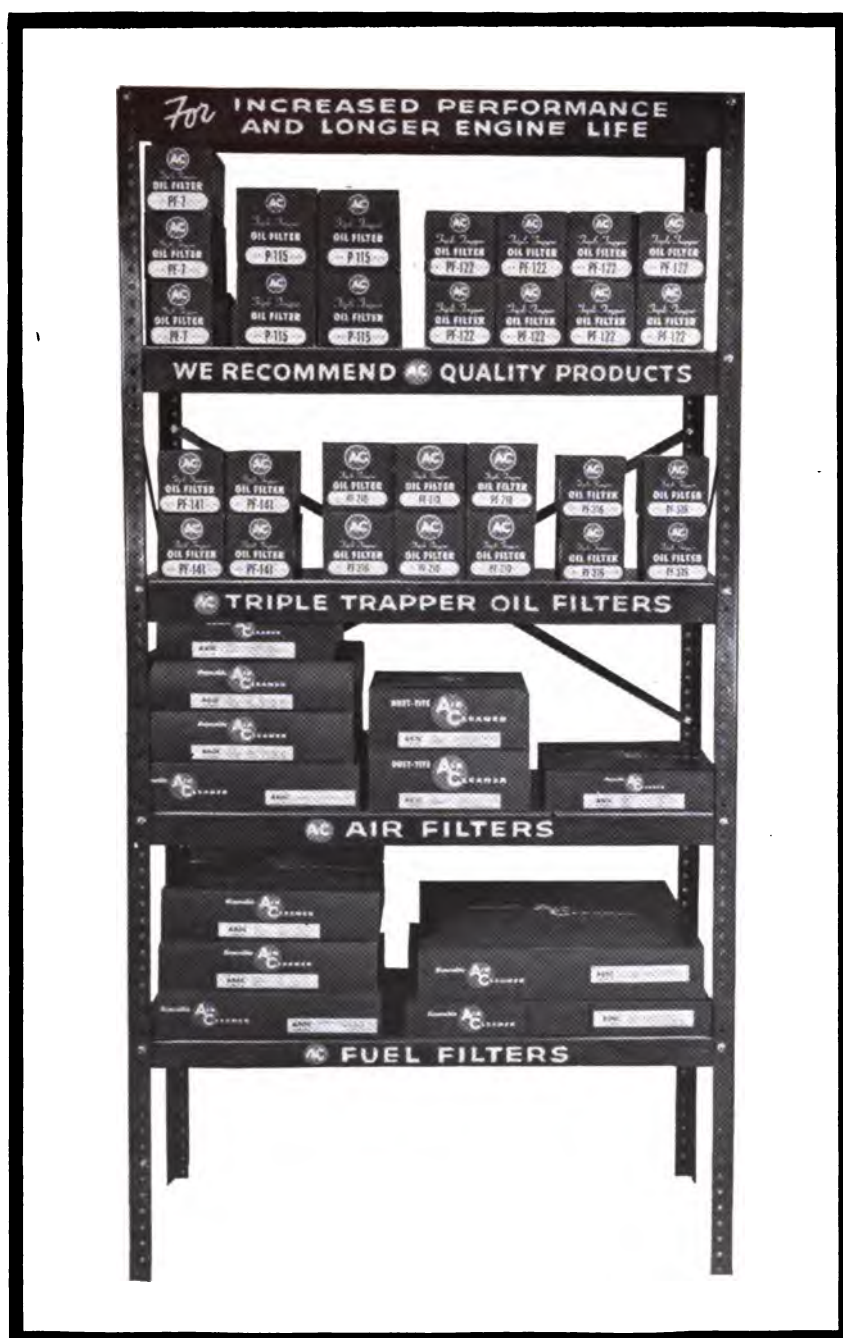
deposits due to "hard" water . . . prevents radiator clogging . . . helps keep rubber hoses and gaskets soft and pliable . . . protects year-round anti-freeze against deterioration in hot weather. So, give your customers the best cooling system protection—with Quaker State CSP!



QUAKER STATE OIL REFINING CORPORATION, OIL CITY, PA.
MOTOR JULY 1961

AC**SELLING SLANTS**
MONEY-MAKING FACT

Keep Filters Ready for Quick Use With This
Big, Sturdy Storage



Get it with the
OFM-97
Merchandising
Package

Here's a rack that's ideal for filter storage. It keeps your oil and air filter inventory ready for quick use. Open shelves make filter inventory checks easy and fast. Sets up in minutes anywhere. The rack is heavy-duty gauge metal in attractive blue. It's 6 feet high, with heavy-duty shelves—each 48" long and 15" deep. The shelves are adjustable so you can fit your carton display to suit your inventory. A wide flange on each shelf carries a filter message—to help step up your filter business. You'll find many uses for this sturdy, handy rack—in fact, many dealers will want more than one of these racks for additional storage space.

OF THE MONTH
FOR DEALERS

AC

and Display Rack

OFM-97 ALSO INCLUDES:

SIX FAST-MOVING AC TRIPLE-TRAPPER OIL FILTERS

There are two different types of AC Oil Filters included in this package: 2 PF-7 and 4 PF-2, specified for most late-model Chrysler, Ford, General Motors and American Motors passenger cars. All AC Triple-Trapper Filters have advanced filtering design.



PLUS



AC ALL-PRODUCTS WALL CHART

Lets you tell at a glance the right AC Spark Plug, Filter, Fuel Pump and other AC parts for all popular passenger cars. Hangs easily anywhere, for quick use.

FINEST PROTECTION MONEY CAN BUY!



BUSINESS-BUILDING BANNER

Place it in your window to focus attention on your business as the filter headquarters in your neighborhood. Bright and attractive, this clear plastic banner can be easily seen, yet does not obstruct your view of the pump islands. Goes up in seconds.

**Here's how to get the
OFM-97
Merchandising Package**

You get the handy filter rack, AC all-products wall chart, business-building filter window banner and six fast-moving AC Oil Filters for just \$21.70, the list price for the six filters. When you sell the six filters, you recover the full price of the OFM-97 Merchandising Package.

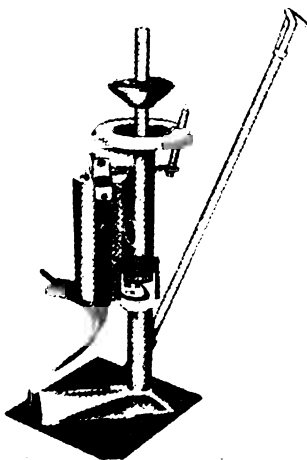
ORDER NOW FROM YOUR  SUPPLIER



continued from page 120

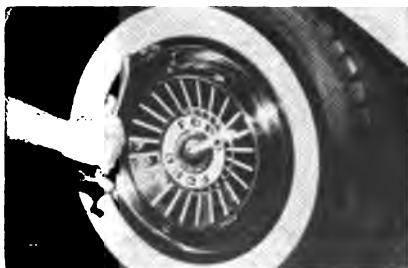
cates when the desired torque is applied are available from P. A. Sturtevant Co., Addison, Ill. Offered in torque capacities ranging from 0 to 3,600 lb.-in. and 0 to 600 lb.-ft., the wrench's signal mechanism relays an impulse to the operator when the pre-set torque value is obtained.

Bishman Tire Changer



Tire changer Model 883-EC is offered by Bishman Manufacturing Co., Osseo, Minn. Included with the air-powered bead breaker is a positive-locking wheel holder, a single bar for tire mounting and demounting, and a quart of tire lubricant with applicator and holder. The unit will reportedly handle drop center wheels up to 19½ in.

K-D Wheel Tool



The wheel weight tool K-D 470 for installing or removing all type wheel weights is offered by K-D Manufacturing Co., Lancaster, Pa. Equipped with a hammer head

and U hook, the tool can be used on inside or outside weight installations. Also provided is a hook for removal of weights without holes.

Correction

Address given in last month's description of Doan Manufacturing Div. of Anchor Industries, Inc., new rubber mats was incorrect. The firm's correct address is 1725 London Rd., Cleveland 12, Ohio.



Ideal Clamp Merchandiser



The Clamp-Rack, a metal and pressboard hose clamp display cabinet is available from Ideal Corp., 435 Liberty Ave., Brooklyn 7, N.Y. The company reports the rack, which can be mounted on a wall or counter, provides an orderly and accessible means of stocking hose clamps.

Wynn Counter Display



Wynn Oil Co., 1151 W. 5th St., Azusa, Cal., has introduced a counter display which features both Wynn's Friction Proofing and Wynn's Motor Cleaner, mounted

in an attractive display card together with an oil filter and one can of motor oil. The filter and motor oil brands are selected by the displaying dealer.

Columbus Shock Rack



A metal shock absorber merchandiser rack, which stocks 16 shock absorbers, is available from Columbus Parts Corp., 1801 Spielbusch Ave., Toledo, Ohio. The rack, which requires less than 1 sq. ft. of area, can be either wall or counter mounted.

Hygrade Gasket Display



A display of air-cleaner mounting gaskets containing 40 packets of gaskets is offered by Hygrade Products Div. of Standard Motor Products, Inc., 37-18 Northern Blvd., Long Island City 1, N.Y. According to the company, the merchandiser provides a single source of gaskets covering almost all late model cars. [CONTINUED ON PAGE 128]

**Never
give a
seal
a second
chance**



Replace with National—the only line that can match any seal you pull!

Why risk damage to bearings and other vital parts? Whenever you pull a seal, replace with National. With the most complete line, you'll virtually eliminate the problem of getting odd-size replacements. Satisfied customers will bring repeat business.

National Oil Seals come in Micro-Torc leather®, which is specially processed for protection against

seepage; and Syntech rubber compounds, which meet the changing requirements of automotive applications. Quality and availability—these are the reasons why all U.S. car and truck manufacturers use Nationals as original equipment . . . why *you* should, too!

Your National Seal jobber offers fast service on the seals to fit your needs. Call him today!



NATIONAL OIL SEALS

FEDERAL-MOGUL SERVICE

DIVISION OF FEDERAL-MOGUL-BOWER BEARINGS, INC. • DETROIT 13, MICHIGAN



CASH-IN ON FAST LUBE SERVICE! If your lube bay is just an ordinary low-profit area, turn it into a gold mine with Alemite Strato-Line Lubrication Equipment. You save time and labor costs . . . get faster turnover! No other pumps give you such instant power—with no time lag every time the gun hits the fitting.

MEET A MAN MAKING MONEY

HE'S EARNING AN EXTRA \$1,000 PROFIT! And so can you . . . on automatic transmission refill fluid and service . . . doing an average of just five jobs a week for one year. A portable Alemite Strato-Line drain rolls into position instantly—extends and holds firmly at proper height. An overhead reel delivers exact measure of AT fluid, power-pumped from original drum—completely protected from contamination. Result: a profitable operation completed *in minutes*—with less labor cost—with no hazard of customer complaints from grit or foreign matter entering the transmission.

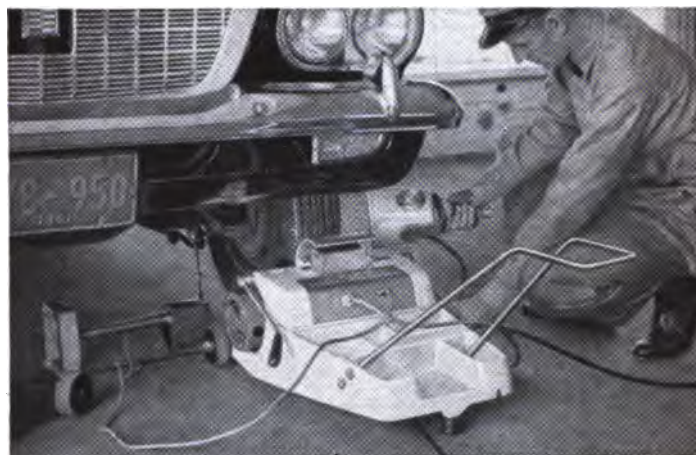
This is just another example of how Alemite's *complete line* of automotive service products makes it possible for you to speed up service—make bigger profits from increased volume.



ADD \$3,102 TO YOUR YEAR'S PROFITS! Just a single job a day with the Alemite Cross-Sight Wheel Aligner does it. Simple to operate, fast and accurate—you become an expert on the first job. Works wherever the car is—inside or out . . . whether on a level surface or not.



BIG MONEY-MAKER FOR SMALL SPACE! The portable Alemite Spray-Kleen Car Wash Pump gives you high-pressure cleaning—with no costly, space-wasting installation required. You can eliminate slow, time-consuming hand wash jobs—convert a "nuisance" service to high speed, profitable power washes!



MAKE AN EXTRA \$3,800 PROFIT! Do it with the famous Alemite "On-the-Car" Wheel Balancer averaging just two jobs a day for a year. Exclusive Hand Strobe Light and pickup gives accurate meter reading indoors or outdoors—proves to your customer the need for balancing—shows perfect results when the job is completed. Gives both up-and-down, side-to-side correction.



Dept. DE-71, 1850 Diversey Parkway, Chicago 14, Illinois
In Canada: Stewart-Warner Corporation of Canada, Ltd., Belleville, Ontario

Send for a free, fact-filled booklet telling the whole, big-profit story of Alemite Equipment. Indicate which specific products you are most interested in.



STRATO-LINE LUBRICATION EQUIPMENT ☐

Wheel Balancer ☐ Wheel Aligner ☐ Spray-Kleen Car Wash ☐

Name

Address

City Zone State

New Business Getters

Displays • Signs • Packages

continued from page 124

AC Filter Rack



AC Spark Plug Div. of General Motors Corp., Flint 2, Mich., has available a merchandising rack for storage and display of oil, air and fuel filters. The rack, which stands 6 ft. high, has five 36 in. by 15 in. shelves and is said to hold 144 oil filter elements. Included with the rack are a window banner and a product specification folder.

NEW LITERATURE

Booklets • Catalogs • Manuals

MUFFLER CATALOG—This illustrated 8-page catalog lists over 30 muffler sales and merchandising aids. Coverage includes muffler tools, display signs, posters, envelope stuffers, counter display racks. Merit Muffler Div., 619 Smith St., Toledo 1, Ohio.

THERMOSTAT BROCHURE—An illustrated two-color booklet titled, "Let's Talk Thermostats," which explains proper use of ther-

mostats for winter and summer operation, as well as types for use with different antifreezes. Problems resulting from overcooling are also explained. Standard-Thomson Corp., Automotive Div., 152 Grove St., Waltham, Mass.

TIRE VALVE BOOKLET—This 16-page booklet tells how to increase sales of tires, tire valve cores, caps and pressure gauges, as well as how to repair tires and get increased tire life. Illustrated with photographs, charts and graphs. Dill Manufacturing Co., 700 E. 82d St., Cleveland 3, Ohio.

BRAKE SHOE CATALOG—A 24-page catalog of bonded brake shoes covering alphabetical and numerical listings of shoes for 32 passenger car and light truck models. Also includes detailed descriptions of available brake shoe merchandising aids. Grizzly Brake Div., 168 N. Michigan Ave., Chicago 1, Ill.

TOOL CATALOG—This 132-page illustrated catalog, No. 700, describes socket wrenches, wrench sets, tool holders, tool bits, pipe tools and machine shop specialties. Coverage includes over 300 new items not previously listed. Free. Armstrong Bros. Tool Co., 5200 W. Armstrong Ave., Chicago 46, Ill.

BRAKE SHOE CATALOG—This new lined brake shoe catalog, BU-579C, lists lined shoe applications for all popular makes and models of passenger cars. Included are data of set numbers and illustrations for identifying brake shoes. Also available is catalog BU-525, a lined brake shoe application chart listing models through 1961. Parts and Accessories Div. of Wagner Electric Corp., 6400 Plymouth Ave., St. Louis 33, Mo.

RADIATOR CHART—This 4-page supplement to the firm's Radiator Water-Flow Chart lists gravity water flow in gallons-per-minute for 1961 models of all makes of cars, trucks, industrial units and farm implements. Free. Inland Manufacturing Co., 1108 Jackson St., Omaha 2, Neb.

SMALL ENGINE PARTS CATALOG—This condensed 1961 catalog is a listing of fast-moving parts for Briggs and Stratton, Clinton and Lauson-Power Products engines. Includes electrical and carburetor items pictured in silhouette form for easy identification, coverage on two- and four-cycle engines, and price lists. Automotive Electric Assn., 16223 Meyers Rd., Detroit 35, Mich.

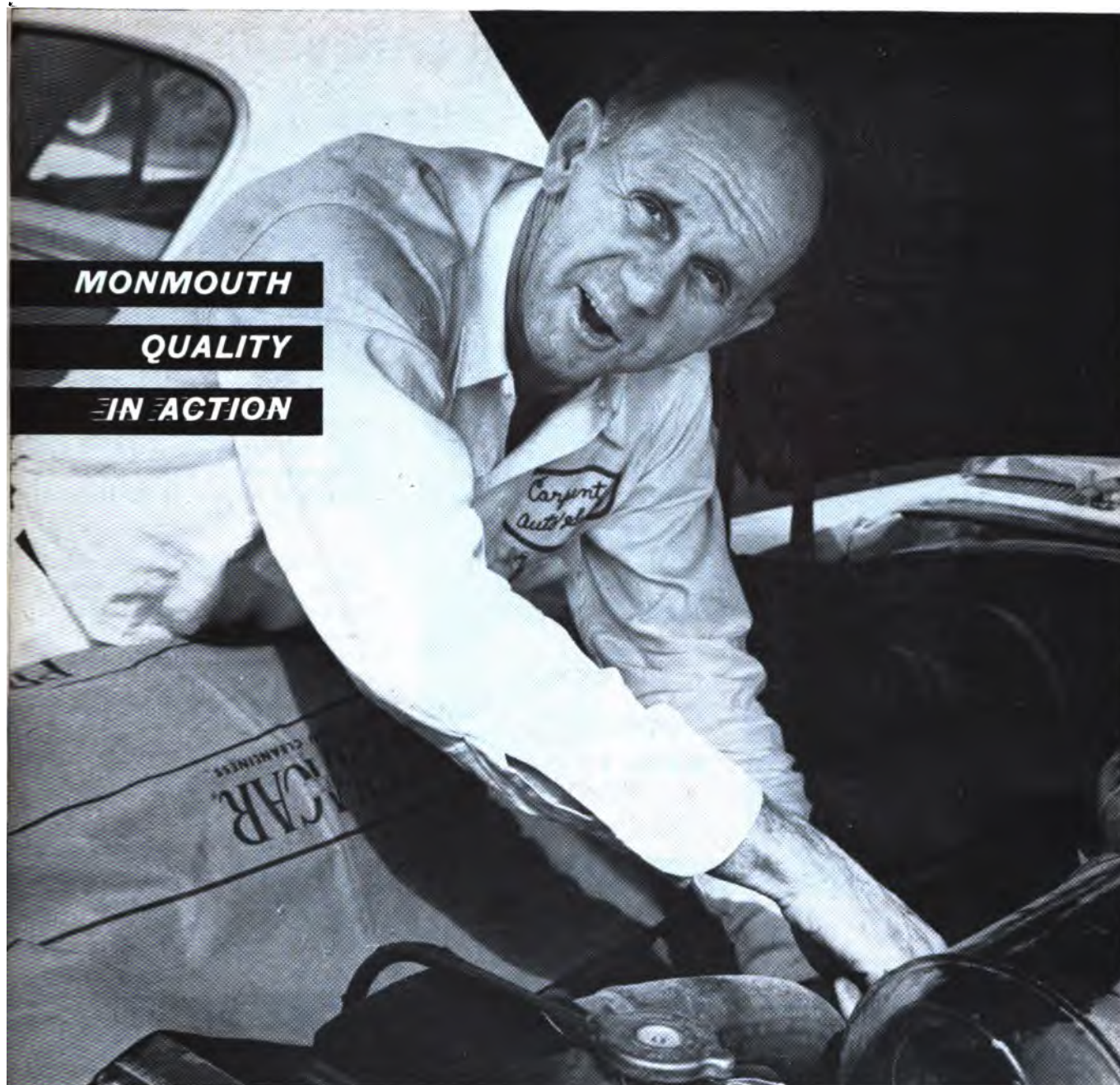
COOLING SYSTEM FOLDER—This 4-page folder describes step-by-step methods of fast flushing and back flushing cooling systems. Also included is a description of flushing gun equipment. Free. E. I. du Pont de Nemours and Co., Automotive Specialties Dept. WT-900, Wilmington 98, Del.

BATTERY SPECS AND DATA BOOK—The 1961 Battery Replacement Data Book details original equipment battery requirements for passenger cars, trucks, buses, tractors, industrial and road equipment. The 1961 edition of Battery Specifications is a reference list of battery specs, especially suited to meet the needs of purchasing agents in establishing battery standards for purchasing. The Assn. of American Battery Manufacturers, Inc., 19 N. Harrison St., East Orange, N.J.

TUNE-UP TESTER BULLETIN—This bulletin, No. 471, describes a complete range of tune-up test equipment and outlines available combinations of test equipment ranging from two unit testers to nine unit oscilloscope testers. Free. Sun Electric Corp., 6341 Avondale Ave., Chicago 31, Ill.

SALES AID FOLDER—This 1961 sales aid folder lists and illustrates over 40 sales boosters available to dealers and wholesalers. AP Parts Corp., Toledo 1, Ohio.

COMPRESSOR CATALOG—This 16-page catalog, No. 20, covers firm's line of air compressors for automotive, industrial and contractor uses. Free. Lincoln Engineering Co., 4010 Goodfellow Blvd., St. Louis 20, Mo.



"I always use Monmouth in my racing cars . . .

. . . because my engines turn over at some pretty high rpm's and need a bearing that can take punishment. With Monmouth I race all season without bearing problems."

Mr. Carpenter has been racing modified stock cars for over ten years. In his customers' cars, as well as his own, he installs Monmouth Bearings exclusively—because he knows he can *always* depend on Monmouth's high quality.

If you want performance that pays off, use Monmouth Bearings in all your engine rebuilds. For instant service, call on your NAPA jobber. He can give you complete Monmouth service on all your engine bearing requirements.



says J. T. Carpenter
Carpenter's Auto Service
Waco, Texas

MONMOUTH Engine Bearings

CLEVITE SERVICE: Cleveland Graphite Bronze • Division of Clevite Corporation • Cleveland 3, Ohio



Portable Station Rises in 48 Hours

A portable gasoline service station, once transported to its site by truck, can be erected and in operation in 48 hours. This is reported by Continental Copper and Steel Industries, Inc., which owns all rights to the "pre-packaged" service stations called "Petro-Portables."

The stations, it is said, can easily be relocated if traffic patterns or land values change. In addition to the structure and office-salesroom,



Within 48 hours after truck arrival, this eight-pump station was in operation. It measures 74 ft. from end to end, is 36 ft. wide



the prefabricated stations include wiring, lighting fixtures, heating equipment, compressed-air and lubricating lines (concealed in the walls), toilet facilities, overhead doors, and so forth. Pumps and tanks are not included in the "package."

The stations can usually be shipped by truck in two sections.

Chrysler's Jacobson Retires

Charles L. Jacobson, vice president—dealer relations for Chrysler Corp. the last five years, retired recently. A veteran of 40 years in the automotive industry, Jacobson was elected a vice president of the corporation in June of 1954 and to the Chrysler Corp. board of directors in April, 1956. He had also served as president of the MoPar Div.

How Would YOU Fix It?

Answer to problem on page 84

► It was an odd bit of information the repairman had tucked away in his mind that helped him to put his finger right on the cause of trouble.

The car had originally been equipped with resistance-type spark plug cables. These had been replaced with standard cables, which do not have built-in resistance. This led to interference being introduced into the electronic headlight control. Installing the proper type wires licked the trouble.



if you use a low-cost GRACO HYDRA-CLEAN

Keep your fleet clean, make it easier to maintain with Graco Hydra-Clean. Air-powered for easy installation, safe use, the Hydra-Clean washes automobiles and trucks cleaner, faster and easier.

Cleans engines quickly, too . . . saves time on motor tune-ups and maintenance.

And when the day is done, you can use the Hydra-Clean to wash down lifts and work areas without any danger from volatile solvents.

So see your Graco Dealer today! Let him give you all the details on Graco Hydra-Clean.

GRACO

GRAY COMPANY, INC.

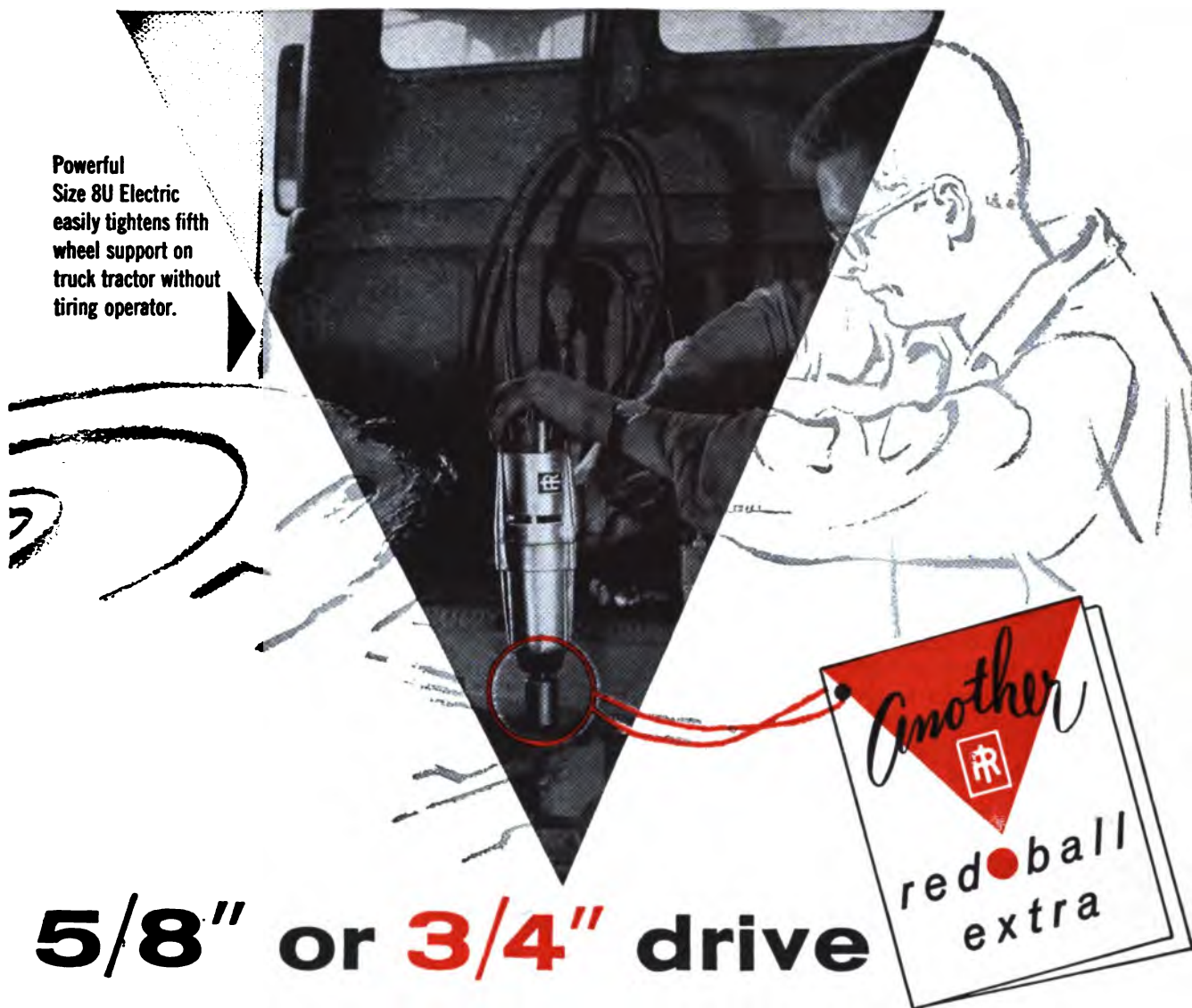
767 Graco Square
Minneapolis 13, Minnesota

ENGINEERS AND MANUFACTURERS

SEE PHONE BOOK YELLOW PAGES "LUBRICATING EQUIPMENT"
OR PHONE YOUR NEAREST FACTORY BRANCH

NEW YORK RAVENSWOOD 1-8585	DETROIT TRINITY 3-6900	ATLANTA TRINITY 6-6374	CHICAGO MADISON 6-7048
PHILADELPHIA BALDWIN 6-3031	HOUSTON WALNUT 6-1781	SAN FRANCISCO MARKET 1-5941	

Powerful
Size 8U Electric
easily tightens fifth
wheel support on
truck tractor without
tiring operator.



5/8" or 3/4" drive

...at no extra cost!

- **"Cuss-Proof" Socket Retainer.** Sockets can't fall off accidentally, but strong, spring-held retainer can be easily replaced. Another I-R exclusive.
- **Life Guard Commutator.** Exclusive I-R construction prevents motor damage, permits easy dressing, provides long brush life.
- **Sealed Nose Bumper.** Exclusive I-R rubber guard seals out dirt in addition to protecting impact mechanism.
- **Dirt-Sealed Trigger.** Plunger-operated switch is sealed tight from dust and dirt. Another I-R exclusive.
- **Job-Tailored Motor.** Not "adapted" but built specifically for rugged Impacttool duty.

Only Ingersoll-Rand gives you your choice of drive sizes at no extra cost—all you do is specify the size you prefer.

And—whichever drive size you select, remember—you not only have the most powerful, but also the smallest, lightest and fastest tool in its class on the market.

Regardless of the drive size or the tool size you select, be sure that the make you buy is Ingersoll-Rand—the Impacttools with the red ● ball extras!

**best design—biggest line
look for the red ● ball extras**

Ingersoll-Rand

11 Broadway, New York 4, N. Y.



204A-18

MOTOR, July 1961

151

Cures for Push-Button Drive Troubles

continued from page 43

has been installed, a jumper lead test lamp is connected between the switch and the battery. When the lamp glows, the switch should be turned an additional one-third to one-half turn. The switch should not be tightened over 75 lb.-ft.; otherwise the switch mounting may become distorted and interfere with cable and push-button operation.

Adjust Parking Cable

The parking-lock cable adjustment on the Valiant and Dodge Lancer TorqueFlite is made with the dash control "park" lever in the off position and the clamp screw securing the park cable at the rear of the transmission loosened to allow in-and-out movement.

A complaint that the transmission locks in "park" on a 1960 Valiant can be traced to an incorrect cable adjustment or to the cable not engaging its adapter inside the cover. This can be checked

by moving the cable in and out. If the cable end is not engaged, the condition can be corrected by filing off $\frac{1}{16}$ in. from the cable end. With the cable engaged in the adapter, adjustment is obtained by carefully pulling the cable housing outward to the limit of its travel and then tightening the clamp screw to 2 to 4 lb.-ft.

On Rambler models with Flash-O-Matic transmission, the selector cable is adjusted by disconnecting the cable from the transmission lever, then pushing the "low" button fully in and holding the selector lever all the way to the rear in its "low" position. The threaded clevis on the cable end can then be adjusted to align the clevis holes with the selector lever hole.

A similar clevis adjustment is used on the Rambler "park" cable. With the cable disconnected at the transmission, and the "park" control pulled all the way out, the clevis can then be adjusted to align with the lever as it rests against the parking pawl.

On the 1957-58 Mercury push-button transmissions, the "park"

release cable must be disconnected from its lever and adjusting bracket while the selector cable is adjusted. The selector cable is adjusted following removal of the splash shield, the case pipe plug under the cable, and loosening of the bracket.

Locates Cable

A threaded plug and gauge pin is screwed into the pipe-plug hole for locating the cable in the Merc-O-Matic "drive" range or Multi-Drive "cruising-range" positions. With the drive or cruising-range button held in, the cable and housing are pulled upward until the gauge pin seats in its cable-connector slot. The bracket is tightened and the pin held out of engagement with the slot as the "neutral-start" button is pushed in. The pin is then released to check its engagement with the slot as "drive" or "cruising" range is engaged. The pin is again pulled out as the "low" or "hill control" button is depressed and released in "drive" or "cruising" range to repeat the check. Readjust the bracket if the pin fails to seat in the slot each time

NEW! completely modern... accurate! NIEHOFF ignition testing equipment

All new, all the way through . . . from the sleek, modern styling of their durable outer cabinets to their built-in accuracy. This new NIEHOFF ignition testing equipment was developed to make you and your station a tune-up leader. You'll like their compactness, easy-to-read dials, simple controls, convenient handles, long trouble-free performance.

Your BEST OFF with NIEHOFF!

See the complete line of NIEHOFF Ignition Parts and Testing Equipment at your NIEHOFF Jobber—or write direct today.

NIEHOFF

AUTOMOTIVE PRODUCTS

C. E. NIEHOFF & CO. • 4925 W. Lawrence Ave. • Chicago 30, Illinois
Branch: 1330 West Olympic Blvd., Los Angeles 15, California



it is placed in "drive" or "park." On the Mercury "park" cable is reconnected to the park in and its adjusting bracket the "park" cable is adjusted, the "park" lever pushed in, the plate is installed over the park lever and the large torsion-in protruding through the the case. Cable slack is re- by sliding the housing to the front of the car, then ing it with the clamp screw. After the adjustment, release press the "park" bar several The gauge should fit over as each time "park" is en-

the exception of Valiant Lancer, the push-button unit is removed on Chrysler Rambler and Mercury cars moving the face plate on the unit, sliding the buttons off shafts and removing the at- nuts from the face of the or, on Rambler installa- Phillips-head screws. The in then be lifted out from r of the instrument panel.

On Imperials, the speedometer must be removed to gain accessibility to the control unit.

On Mercury and 1959 Rambler, pulling the "park" and selector cables from the engine side of the firewall will guide the unit out of its mounting without kinking cables. The cables can then be disconnected from the unit.

Lancer and Valiant control units are attached to the instrument panel by a bracket on the rear of the panel. Removal of two screws and one nut from the rear side of the panel is required to take out the unit and its attached bracket.

THE END. NOW TURN BACK TO PAGE 44

Washington Dealers Elect

Clayton Kauffman, Spokane, was elected president of the Washington State Auto Dealers Assn. at the recent annual convention. Warren E. Simmons, Olympia, was named first vice president, Harold Pingrey, Selah, second vice president, Arvard Andresen, Seattle, third vice president, and V. I. Whitney, Montesano, secretary-treasurer.

American Motors Adds Training Schools

Success with its program of bringing "schools" to Rambler dealership mechanics has spurred American Motors to add two new mobile units. The schools are 35 ft. semi-trailers completely equipped as service classrooms.

New units have classroom facilities for 22 men and work benches for 16, compared with facilities for only 12 men in the earlier versions.

Ford to Use Autolite Plugs in New Models

Autolite spark plugs will be installed as original equipment in all Ford Motor Co. cars beginning with the 1962 model year. The plugs are being made in the Fostoria, Ohio, plant which Ford purchased along with certain other assets including rights to the name "Autolite" from the Electric Autolite Co. in April.

Autolite spark plugs will be sold in the replacement market by the company's Motorcraft Div.



NEW!

sales merchandising cabinets! new ignition assortments!

Completely new, functionally designed merchandising cabinets, handsomely styled to compliment your station. Each cabinet can be locked, features streamlined stock control and can be hung on wall or placed on modern legs. Service stocks are made up of the fastest turnover items selected to give you quick return on your investment.

Every assortment has free gift pack that more than covers cost of cabinets. In addition NIEHOFF supplies easy-to-use tune-up manuals, banners, posters, decals, signs, charts, catalogs and bulletins.

Your BEST OFF With NIEHOFF

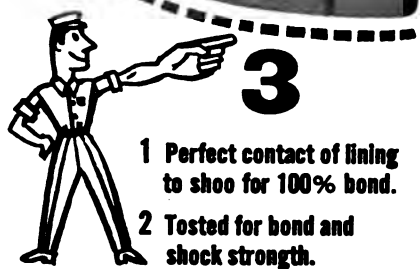
See complete line of NIEHOFF Ignition Parts and Testing Equipment at your NIEHOFF jobber or write direct today.

NIEHOFF

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C. E. NIEHOFF & CO. • 4925 W. Lawrence Ave. • Chicago 30, Ill.
Branch: 1330 W. Olympic Blvd., Los Angeles 15, Calif.

YOU'RE PROTECTED
3 WAYS WITH
**NATIONAL
BRAKE BLOCK**



- 1 Perfect contact of lining to shoe for 100% bond.
- 2 Tested for bond and shock strength.
- 3 Precision ground for perfect fit into brake drum.

The National brake shoe exchange program means superior bonding techniques, specialized skills and equipment — all resulting in safer braking for your customers, greater sales, bigger profits for you.

National linings are supplied grooved, plain and for power brakes through local distributors. Write today for full details, and the promotional aids designed to help you sell more of National's premium linings at a popular price.

NATIONAL
BRAKE BLOCK CORPORATION
SINCE 1919
37-17 57th Street, Woodside 77, N. Y.

Where to Find Good Service Managers

continued from page 39

His job goes far beyond selling the shop's services. He must also sell customers on the business itself, sell old customers on coming back, attract new trade and teach other members of his department how to sell.

Putting the welfare of the dealership above his own department, he must also function on occasion as an arm of the new or used car branch of the business by selling service customers on the value of replacing their old cars as repair bills mount.

Another essential in the making of a service chief is a general knowledge of the technical side of the automobile. He need not be an automotive engineer or even an all-round mechanic, because his role is that of instructor and supervisor, not that of hired hand. The more he knows about the mechanics of the machine the better.

Must Judge Work

Although he may never extend himself to the point of lifting a wrench, he cannot evaluate the work of those under him unless he understands the how and why of what they do.

The last of the four talents required to supervise a service department is an ability to handle customers.

Not only must he win a following for the business, but he must also be prepared to handle customer complaints, outmaneuver the customer who wants the work done for less than the going rate and fend off freeloaders who want it performed for nothing—all without risking offense to the customer. Another of his duties under the heading of customer relations is to find out why customers do not return and then correct the operation accordingly.

The man who meets all those specifications, if he exists at all, is not available because he is already employed.

Even if we admit that the dealer looking for a service manager will have to settle for something less than the ideal man so far outlined, where does he look.

Short of luring an experienced executive away from a competitor the most satisfactory answer to the question is the one already suggested by Detroit. That is for the dealer to grow, or at least train, his own. This is not so formidable a task as it might seem to many who have not tried it before. It becomes simpler when broken down into several parts.

Needless to say, the best source of material is the dealer's own business and the logical department is the back-shop. But casual or indiscriminate looking gets the dealer nowhere; he has to learn to recognize a nugget-bearing vein when it strikes it.

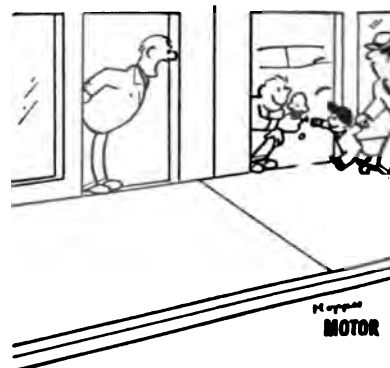
Not Best Prospect

A time was when it was thought that the best mechanic in the shop would naturally make the best foreman or service manager. No one seriously entertains that idea anymore. The candidate must be picked, not for what he has done but for what he must do.

As already mentioned, his function as service manager is fourfold—administrator, salesman, mechanic and customer relations man. The qualities that make a man a star in any of these callings are those that should be looked for in the prospective candidate for the service manager's job. They will never be found in equal quantity in any one man, but every successful service manager stands high in every category.

With a little study, it is fair

JONES MOTOR co. | SMITH MOTORS



"No fair, Smith!"

simple to pick the men who show the most promise.

An affluent dealer in a big town can simply send the man he chooses to a vocational guidance center and have him tested for needed qualities. Most dealers, though, must depend upon their own knowledge to find the right man.

Take the administrator, or boss, facet of the problem. The mechanic most likely to succeed in this function is one that organizes his own work well, turns it out on time, and is always looking for ways to improve his output and performance. A man who can manage himself has a big advantage when and if called upon to manage others.

Now take the matter of sales ability. It is a truism that a man inclined to things mechanical usually has little sales skill and, what is more frustrating, little interest in sales. Happily there are exceptions and it is for the exception that the dealer looking for a future service manager must be on the alert.

Not Easily Detected

This talent is not easy to detect in a man who must spend his working hours under a car or at the bench and the gift of gab is by no means a dependable aid in the search. The ability to speak naturally and well is a decided asset to a salesman but it is more important to watch for signs that a man is interested in beefing up the job ticket.

If he is a mechanic who frequently runs to the boss with suggestions of other work or parts that might be sold the owner of the car on which he is working, then he is a man interested in selling. If he gets his point across strongly and clearly, then he may indeed be a salesman.

Handle Customers

Next we come to the ability to handle customers. This is a quality that is overlooked by far too many dealers in appointing a service manager. If some of them could eavesdrop on the things their shop bosses say to customers, they would probably fire them on the spot.

Here again, it is not easy to tell whether a man is a diplomat when he has little or no opportunity to exercise this gift. A dealer, though,

can watch for signs that a particular mechanic gets along well with his fellow workers and his boss, that he smiles oftener than he frowns and that he has something amounting to affection for the human race. A man who, to the eye, seems to be given to drinking vinegar cocktails, is no man to place in any spot where he has to meet the public.

Last comes mechanical skill. The dealer can assume a mechanic is competent or he would not still be on the payroll. Is he better than

his fellow workers? That is not too important, if it is simply a matter of correcting trouble. It is far more important that the service manager be able to diagnose automobile faults.

If he knows, or can discover quickly, what is wrong with a car when it is driven into the shop, he can impress the customer with his diagnostic skill and can correctly order the work needed to overcome the defect. This side of a mechanic's efforts should be readily ap-

[CONTINUED ON PAGE 136]

Ease the **PROFIT SQUEEZE** with low-cost efficient **Kellogg American** **Air Compressors**

Superior Kellogg-American engineering and workmanship keep costly down-time and maintenance at an absolute minimum.

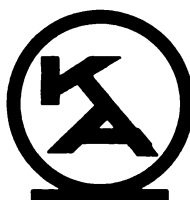
Kellogg-American compressors assure lower operating cost and higher profits by delivering more USABLE FREE AIR per kilowatt hour.

Warehouses and parts depots are strategically located throughout the country to insure prompt shipment.

Kellogg-American will help you select the most efficient and economical compressor for your requirements from over 250 different models; 1/3 thru 20 HP; single or two-stage; horizontal or vertical.



For full details, see the Yellow Pages for the name of your nearest Kellogg-American jobber or write to:



Kellogg-American

DIVISION SCAIFE COMPANY • PITTSBURGH 35, PA.

Where to Find Good Service Managers

continued from page 135

parent to any dealer who takes the trouble to get acquainted with the men in the shop.

The fact that a service manager need not necessarily be a mechanical genius permits a dealer to look elsewhere than his mechanical force for potential service managers.

Where a dealership employs one

or more service writers, these men probably command first look, depending upon the thoroughness of their training in repairs. They already have the ability to meet customers and to soothe ruffled feelings and to sell the work they think a car needs. If they meet all three tests, their skill as administrators must still be tested.

Many highly successful service bosses have come out of the parts department. Unless he started as a mechanic, a parts man is likely to emphasize sales if given responsi-

bility for the back end of a dealership. This is not bad in itself, but the operation must be kept in balance.

A few dealers have actually taken men off their car sales staff to make service managers of them. The suitability of such a candidate would depend to a great extent on his mechanical knowledge of the cars he sells. If he shows ability to close a deal, once he has a prospect in hand, but is notably weak on prospecting, then a service manager's job may be a natural for him, so far as selling service is concerned. He must have the other prerequisites, of course.

Try Trial Period

In picking a candidate for the service manager's post, a dealer does not have to stake everything on one throw of the dice. Often he does not even have to tell the man he has picked that he is being fingered for higher things; he can simply ask him to stand in for the service manager whenever the latter takes a day off. If he fills the bill, he can be made official substitute or even assistant service manager, provided the dealership is big enough.

The new man can be trained by the reigning service manager or by the dealer himself. Once the upcoming man is officially designated as a service executive, it is possible to send him to factory-sponsored seminars or put him through the home-training courses some factories offer.

Creating his own reserve service manager is not the easiest task a dealer will face but it is hard to think of a more important one, in terms of future profit for the dealership.

THE END. NOW TURN BACK TO PAGE 40

What Caused This?

Answer to problem on page 66

An over-advanced spark and continual third-gear lugging of the engine going up hills proved too much for this piston, causing a portion of the piston head to disintegrate. The owner had maintained the spark setting in an over-advanced position believing that an audible spark knock meant increased fuel economy.

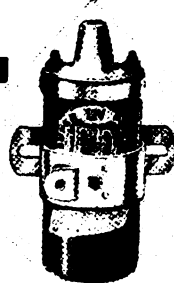
Want more PROFITABLE BUSINESS? the **P&D-IZE** PROGRAM will help you!

Here's why—"One-shots" are no good. There's nothing like *satisfied* car owner customers for steady profit.

You can insure the P&D ignition parts you install for a full year for each customer. You get plenty of P&D merchandising and advertising helps. You are aided with instruction clinics, manuals and year round service from your wholesaler and P&D field engineers.

P&D and your wholesaler developed this P&D-ize ignition tune-up program together, solely to help you get more business and keep it—at a profit! The slogan is "P&D-ize At Least Once A Year."

See your wholesaler or write us!



P&D MANUFACTURING CO., INC.
STARTING - LIGHTING - IGNITION
19-02 STEINWAY ST., LONG ISLAND CITY 5, N. Y.
Export Sales: Borg Warner International, 36 So. Wabash Ave., Chicago 3, Ill.

Safe Plug Service On Aluminum Heads

continued from page 41

in the port will be subject to carbon deposits and corrosion, making it difficult or impossible to install a plug of the proper reach later.

Spark plugs of the specified heat range are satisfactory for the standard engine under average operating conditions. Oldsmobile and Buick, however, have recently introduced high-performance versions of their compact engines. Both use higher compression ratios and four-barrel carburetors. A plug one step colder than standard is recommended for these engines, which are regular equipment in the Buick Skylark and Oldsmobile Cutlass and optional in other Special and F-85 models.

Colder Plugs Needed

Corvairs which are driven at sustained high speeds, as in turnpike operation, should be equipped with plugs two steps colder than those recommended for normal use.

Oldsmobile and Buick specify that threads be lubricated with anti-seize compound or engine oil before installation. All Buick recommendations also apply to the Tempest V-8, which uses the same engine. Use extreme care to prevent cross-threading. Tighten plugs in the F-85 to 15 lb.-ft. Buick and

Pontiac specify 15 to 20 lb.-ft.

Corvair spark-plug threads should not be lubricated. Torque plugs 20 to 25 lb.-ft. After installation, be sure to replace all spark-plug access covers securely. If two or more are loose, enough air will escape from the engine's cooling system to cause overheating.

Clean Port Threads

If threads in the ports of any of these engines are corroded or slightly burred, they can be cleaned up with a 14 mm by 1.25 SAE spark plug tap. Coat the tap with grease to pick up metal chips. Follow the original threads and be especially careful to avoid cross-threading. After the port has been tapped, turn the engine over with the starter to blow out any particles before installing the plugs.

If threads are badly damaged, the port should be drilled out for the installation of a thread insert. Heli-Coil packs contain inserts, the tap and inserting tool needed to repair threads in all the new GM aluminum engines and any other powerplant using 14 mm plugs with 1/2 in. reach. Be sure to use only inserts of specified length.

The cylinder head should first be removed to keep metal chips from getting into the cylinder. Drill out the old threads with a 1/16 in. drill. Tap new threads with the tap furnished in the kit. Pull the mandrel back into the barrel of the inserting tool, then place the thread insert in the opening, with the tang toward the cylinder head. Engage the tang in the slot of the mandrel. Turn the handle of the inserting tool to wind the insert into the threaded end. The tip of the mandrel should project about 1/32 in. from the threaded end of the tool.

Must Be Square

Hold the tool firmly over the tapped hole, making sure that it is absolutely square. Turn the handle clockwise, slowly and steadily, but do not exert any forward pressure. When the insert is a quarter to one-half turn below the top surface of the hole, withdraw the mandrel far enough to disengage its slot from the tang of the insert. Rotate the handle a quarter turn, then strike the top of the mandrel sharply with a hammer to break off the tang.

THE END. NOW TURN BACK TO PAGE 41

MOTOR SALES



"You had me worried. I thought you were going to forget your dignity and ASK them to buy!"

MOTOR, July 1961

FOR HIDDEN BODY SQUEAKS

in weatherstripping . . .
window channels . . . trunk
seals . . . rubber bumpers
. . . hood lacings

It takes a lubricant of super strength . . . and extreme temperature range to effectively stop squeaks in these trouble spots.

SIL-GLYDE is the answer . . . it has far greater film strength than ordinary lubricants. Provides longer lasting lubrication on rubber-to-rubber and metal-to-metal surfaces. SIL-GLYDE is waterproof . . . won't wash out, freeze, gum or melt. Prevents weatherstripping from freezing, sticking and pulling apart in cold weather. Performs from 20° below to 400° above zero.

Put SIL-GLYDE to work for you. Excellent to silence body squeaks in hardtops, convertibles and station wagons. (Also ideal for brake lubrication.)

SIL-GLYDE®

LUBRICATING COMPOUND
with SILICONE



1 1/2-oz. bubble-pack tubes;
4-oz. tubes; 8-oz. cans; 6 and
16-oz. aerosols.

Another "STANDARD OF THE
INDUSTRY" from



AMERICAN GREASE
STICK COMPANY

Muskegon
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SG-358

SERVICE FOR YOUR B&D TOOLS



Check the Yellow Pages under "Tools-Electric" for the location of the nearest Black & Decker factory service branch or authorized service station.

Free tool inspection when requested • Genuine B&D parts used • Factory-trained technicians • Standard B&D Guarantee at completion of recommended repairs • Fast service, reasonable cost, always.

Or write for address of nearest of more than 50 branches and service stations to: THE BLACK & DECKER MFG. CO., Dept. 5007-S, Towson 4, Md.

Black & Decker



QUALITY TOOL SERVICE



**FIRST PLACE
in QUALITY
COMPLETENESS
GUARANTEE**

U.S. Vehicle Sales

January-April, 1961-60

As counted by R. L. Polk and Co.*

Passenger Cars

	Position		Total Retail Sales for First 4 Months		Per Cent of Grand Total of Retail Sales	
	1961	1960	1961	1960	1961	1960
GENERAL MOTORS			813,688	942,842	49.7	47.5
Chevrolet	1	1	471,723	554,608	28.8	27.9
Pontiac	3	5	112,976	132,748	6.9	6.7
Oldsmobile	5	6	96,761	116,234	5.9	5.8
Buick	7	8	84,361	87,605	5.2	4.5
Cadillac	10	10	47,867	51,647	2.9	2.6
FORD			492,942	559,587	30.0	28.1
Ford	2	2	393,587	476,289	24.0	24.0
Comet	9	13	51,331	20,340	3.1	1.0
Mercury	11	9	36,846	54,404	2.3	2.7
Lincoln	14	14	10,287	8,554	0.6	0.4
CHRYSLER			198,376	297,427	12.1	15.0
Plymouth	6	3	94,904	149,272	5.8	7.5
Dodge	8	7	71,647	115,779	4.4	5.8
Chrysler	12	12	28,033	26,589	1.7	1.4
Imperial	15	15	3,792	5,787	0.2	0.3
AMERICAN MOTORS			106,801	134,252	6.5	6.8
Rambler	4	4	106,801	134,252	6.5	6.8
STUDEBAKER	13	11	23,682	38,360	1.5	1.9
Miscellaneous			3,114	14,001	0.2	0.7
TOTAL			1,637,703	1,986,469		

Trucks

	Total Retail Sales for First 4 Months		Per Cent of Grand Total of Retail Sales	
	1961	1960	1961	1960
CHEVROLET	89,545	106,439	33.5	34.1
FORD	87,462	94,003	32.7	30.1
INT. HARVESTER	29,683	36,840	11.1	11.8
GMC	21,047	25,081	7.9	8.0
DODGE	11,932	14,468	4.5	4.6
WILLYS	8,600	9,512	3.2	3.1
Truck	5,796	6,417	2.2	2.1
Jeep	2,804	3,095	1.0	1.0
WHITE	3,754	4,966	1.4	1.6
MACK	2,803	3,875	1.0	1.2
STUDEBAKER	1,703	1,048	0.6	0.3
DIAMOND T	577	927	0.2	0.3
BROCKWAY	278	390	0.1	0.1
Miscellaneous (Domestic and Foreign)	10,306	14,909	3.8	4.8
TOTAL	267,690	312,458		

* Connecticut figures for April, 1961, not included

Traffic Safety Campaign Backed

In a letter to William Randolph Hearst, Jr., chairman of the President's Committee for Traffic Safety, President Kennedy expressed his support of the annual "Slow Down and Live" traffic safety campaign.

The President expressed hope that all citizens will support the campaign.

MOTOR, July 1961

Imported Vehicle Sales

10 Leading Makes

January-April 1961-60

As counted by R. L. Polk and Co.*

1961		1960	
.....	56,984	Volkswagen	51,969
.....	11,953	Renault	27,218
.....	4,172	English Ford	10,905
.....	3,803	Opel	10,350
Benz	3,707	Fiat	8,715
ord	3,413	Simca	5,920
.....	3,173	Triumph	5,352
.....	3,038	Austin Healey	5,193
aley	2,706	Vauxhall	2,022
.....	2,576	Hillman	4,672
(63 makes)	23,252	All others (64 makes)	45,334
.....	118,777	TOTAL	180,650

*Cut figures for April, 1961, not included

House Subcommittee Hears Finance-Bill Testimony

General Motors' board chairman, Frederic G. Donnelly, testified before the House Antitrust Subcommittee last month, said that legislation to prohibit motor manufacturers from financing and insuring their products would be "contrary to the interests of dealers, retail purchasers and the economy as a whole."

GMAC official testified "the competitors of GM are free to do their financing business with whom they chose and that GMAC is not subsidized by the federal government in any way."

Donnelly testified in favor of the proposed legislation. S. Assistant Attorney General Lee Loevinger and Sen. Rand Dixon, FTC chairman. They stated that vestment of GMAC from General Motors would benefit the public by creating a competitive market in the automobile industry.

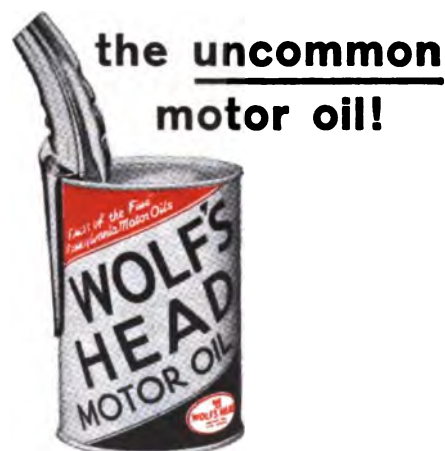
Members of independent sales finance companies testified in favor of the proposed bill.

Henry Ford New AMA President

At the annual membership meeting of the Automobile Manufacturers Assn. in Detroit last month, Henry Ford II, chairman of the board, Ford Motor Co., was elected president. He succeeds L. L. Cord of Chrysler Corp., who has held this office since 1946.

Other AMA officers elected were: John F. Gordon, president, General Motors Corp., vice president; J. N. W. Ford, president, White Motor Co., vice president; Schumacher, executive vice president, International Harvester Co., secretary; George Romney, chairman of the board, American Motors Corp., treasurer.

APR, July 1961



Motorists who *care* for their cars . . . and servicemen who *care* for their customers . . . agree that WOLF'S HEAD Oil is truly the finest of the fine. There's a reason—WOLF'S HEAD is 100% Pure Pennsylvania, Tri-Ex refined three important *extra* steps and scientifically fortified for the finest engine protection. The result is *uncommon* lubrication . . . *uncommonly* low operating and upkeep costs . . . truly *uncommon* quality. That's why many motorists who *care* for their cars insist on WOLF'S HEAD. Keep your customers coming back with WOLF'S HEAD . . . the motor oil that commands *uncommon* customer loyalty the country over.

WOLF'S HEAD OIL REFINING CO.
OIL CITY, PA.

New Austin Healey Sprite Bows

Completely new in appearance, the latest version of Austin Healey Sprite also has a more powerful engine and outside lid for easier access to trunk. Car is priced under \$2,000 at East Coast ports of entry.

Restyled sports car from England



Good Money REPAIRING RADIATORS!



A real opportunity awaits someone in your area to cash in on the growing volume of radiator servicing. Why not YOU? Consider these facts:

- The high pressure in today's auto cooling-system demands more frequent radiator servicing.
- 83% of all radiators over a year old are partly plugged — need cleaning. Many need repairing.
- The number of autos, trucks and tractors in your area increases every year.

PROFITS: \$6,000-\$8,000-\$10,000 additional a year reported by many Inland shops and departments.

EQUIPMENT: Inland, world's largest radiator equipment mfr., offers a complete, modern line. Everything to test, clean, repair and recore radiators.

TRAINING: You or your man admitted without cost to our factory school for complete training in radiator work. Continuing merchandising and selling aids.

PAYMENT PLAN: Equipment available on Inland's "Pays-For-Itself" payment plan... enables you to pay from profits. Mail coupon today.

INLAND MANUFACTURING COMPANY

Dept. M-7, 1108 Jackson St., Omaha 2, Nebr.

Mail Coupon Now!

INLAND MFG. CO., Dept. M-7, 1108 Jackson St., Omaha 2, Nebr.

Please send free 32-pg. book describing equipment, school, prices, payment plan, etc.

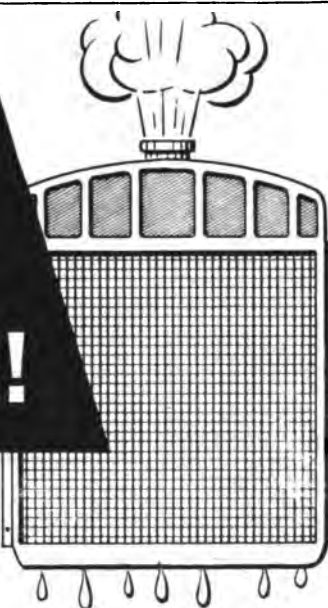
FIRM _____ (PLEASE PRINT)

ADDRESS _____

CITY _____ ZONE _____ STATE _____

BY _____ TITLE _____

If dealer, make of car sold. Are you now operating a radiator Dept.? ☐ Yes ☐ No



\$300
a week

\$400
first week

\$9,445
first year

\$10,000
a year

\$13,500
first year

Variable-Speed Fan Service

continued from page 59

rotate independently of the water pump pulley.

If it does rotate independently, remove the radiator, fan clutch and water pump pulley. Then remove the clutch plunger rod from the water pump. The yellow, red or white color code on the hub of the pump pulley and on the clutch plunger should match. The color code indicates the length of the plunger and, where required to effect proper fan clutch operation, the next longer plunger can be installed. The yellow plunger is shortest and the white longest.

If there is oil leakage from the fan clutch, replace the unit. When making a unit replacement do not change the plunger unless it does not match the color code on the hub.

On 1958-60 Mercury, use test procedure given for 1957-60 Chrysler. Engine speed at which crankshaft pulley and fan should appear to be stopped is 1,200 rpm on 1958, and 2,400 rpm on 1959 and 1960 models.

For 1961 Mercury, procedure is same as for Ford.

GENERAL MOTORS CORP.—An approximate check with a timing light can be made with the following test specifications. Where engine speed is within the range of fan speed, as for 1958-59 Buick, the fan and crankshaft pulley should appear to be stopped somewhere within this range. In other cases the relative difference in the two speeds can be noted. On later GM cars, with thermostatic fan-speed control,

at a high temperature the fan will turn faster, in relation to the crankshaft pulley, than it does at a low temperature.

On 1958-59 Buick, fan speed should be 1,350-1,600 rpm at 1,540 rpm engine speed.

For 1960-61 Buick, fan speed at low temperatures should not exceed 1,550 rpm at 1,540 rpm engine speed. At high temperatures, fan speed is 1,600-1,800 rpm at 1,540 rpm engine speed.

When the tab on the thermostat coil spring is in the center slot of the bracket, the fan clutch is just at the point of shift between low and high fan speeds with the temperature of the outside air at 80 deg. To raise cut-in temperature, rotate coil tab clockwise to end slot. This increases cut-in temperature point 15 deg. F. on 1960 models and 20 deg. F. on 1961 models. To lower the temperature setting, rotate the coil end tab counterclockwise to end slot.

Cadillac Fan Speed

On 1960-61 Cadillac, fan speed should not exceed 1,600 rpm at an engine speed of 1,800 rpm when the underhood temperature is lower than 115 to 125 deg. Above 130 to 140 deg. fan speed should be 1,800-1,950 rpm at an engine speed of 1,800 rpm.

For 1958 Chevrolet, fan speed should be 1,850-1,950 rpm at an engine speed of 1,820 rpm.

On 1959-61 Chevrolets, fan speed should not exceed 1,600 rpm at an engine speed of 1,820 rpm with underhood temperature below 140 deg. Above 140 deg., fan speed is 1,800-1,950 rpm at 1,820 rpm engine speed.

Has Plastic Retainer

Early type models used a plastic retainer for thermostatic coil. Moving tang on coil one notch counterclockwise, as viewed from front of car, lowers fan speed shift point by approximately 15 deg.

Late type uses U-shaped metal retainer with three notches. Moving coil tang one notch counterclockwise lowers cut-in temperature by approximately 20 deg.

On 1961 Oldsmobile, fan speed is 1,500 rpm maximum at 1,760 rpm engine speed with underhood temperature lower than approximately 130-140 deg. At higher tempera-

tures, fan speed is 1,600-1,800 rpm at 1,760 rpm engine speed.

For 1961 Pontiac, fan speed at low temperatures is 1,500 rpm maximum at 2,130 rpm engine speed. At high temperatures fan speed is 1,500-1,750 rpm at 2,130 rpm engine speed.

THE END. NOW TURN BACK TO PAGE 60

FTC Cites Publisher

Institute of Hydraulic Jack Repair, Bloomfield, N.J., according to

Federal Trade Commission, has been charged with using false earning claims and other deception to promote the sale of its "Hydraulic Jack Repair Manual."

Complaint alleges that persons following the methods contained in the manual will not be able to repair all kinds of jacks or engage in a successful hydraulic-jack repair business. Complaint also contends that the use of the word "Institute" falsely implies that the firm is conducting a genuine institution of higher learning.

only **ONE** plier gives you **BOTH** **THESE POWER-GRIP FEATURES**

Machined, Undercut Channels.
Smooth working, can't slip under any load!

Reinforcing flange for added strength where you need it!

CHANNEL LOCK

Only CHANNELLOCK gives you these power-grip features. That's why thousands of skilled mechanics—year in, year out—buy CHANNELLOCK in preference to any other plier. They prefer its terrific gripping power, its all 'round usefulness. And you will, too! Available in three jaw capacities: $\frac{3}{8}$ ", $1\frac{1}{2}$ " and 2". Ask your tool supplier for a genuine CHANNELLOCK Plier. If he's out of them, ask him to order one for you.

Write for Catalog of Complete Line of Pliers

CHAMPION DEARMENT TOOL COMPANY
Meadville 4, Pennsylvania

STOP

**COSTLY DAMAGE
TO ALTERNATORS**



BATTERY CHARGERS with ALTERNATOR PROTECTION



Here's a complete line of chargers with automatic, built-in alternator protection. New, safe, they provide complete protection against damage to wiring harness, alternator and diodes. Exclusive Fox transistorized circuit assures that charger always operates, when properly connected. Even when battery is flat, protection is never switched off nor are additional batteries needed.

FOX PRODUCTS COMPANY
4752 N. 18th Street
Philadelphia 41, Pa.



Convert your present charger
with a **Safetronic®**
ALTERNATOR PROTECTOR
Model 120—mounts on most
chargers. Easily connected.
Signal light indicates trouble.

FOX

**METHODS AND EQUIPMENT
FOR SELLING AND
SERVICING BATTERIES**

Tune-Ups Open Sales Door

continued from page 47

less than a complete set of plugs.

"But without our testing equipment, we just wouldn't be able to attract tune-up customers. Motorists apparently don't have any more confidence in a shop that is not modern and fully equipped than they'd have in a one-fingered fiddle player."

Krejci, who previously operated garages and service stations in Cleveland before he moved to Phoenix, has managed to win over as regulars a good number of women drivers. The station's popularity with the fair sex is attributed largely to Krejci's patience in explaining and showing why some part must be changed or replaced

"Women," he says, "want to understand why they need new plugs, new points, new condenser, and, if the case be, a new coil. Showing them on an oscilloscope makes it interesting, simple and convincing."

"I have many regular female customers who drive clear across town to patronize my station because I'm patient with them. You can't build such a regular following without mechanical service."

Krejci is convinced that, were it not for his mechanical service, his over-all volume would slide drastically. "I have," he says, "three full-time mechanics, besides myself,

and two island attendants. And we are open from 7 a.m. to 10 p.m. My TBA sales are averaging \$5,000 a month and customer labor is \$3,200."

Tune-ups, in Krejci's opinion, have just about done away with over-the-counter sales of spark plugs. In most instances, he points out, motorists think twice about installing their own plugs because today's V-8 engines are not cut out for do-it-yourselfers.

But, Krejci adds, "Customers are not too eager, either, to pay to have them installed. And why should they? Not when they can get a minor tune-up—which includes checking the plugs, ignition, compression and so forth—plus installation of new plugs, all for \$6.95 or \$8.95."

THE END. NOW TURN BACK TO PAGE 48

100-Year-Old Dealer Still Sells Cars

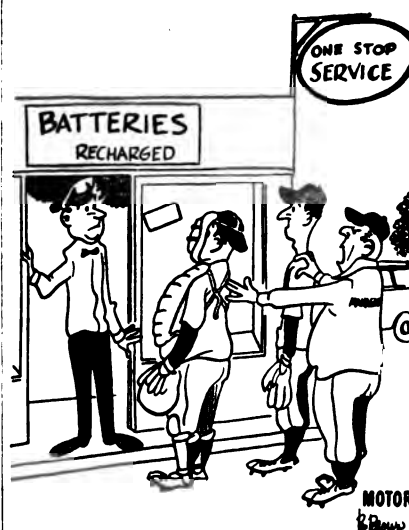
Frank Held, who operates a Chevrolet dealership in Kenyon, Minn., celebrated his 100th birthday last month. Probably the oldest person actively selling automobiles in the country, Held is aided in running the dealership by his son, Harland, now near 70, and a grandson, Howard.

Held signed with Chevrolet in the winter of 1912-13 and since that time has sold more than 2,500 Chevrolet cars and trucks. Before then he had handled two other lines.

When asked the secret of old age, Held replied, "I never go to bed with worries. A clear conscience guarantees a good night's sleep. That enables a person to live a long life."

Chrysler Booklet Aids Driver Training

Chrysler Corp. dealers are distributing a 16-page illustrated booklet designed as a visual aid for driver training in high schools. Entitled "Do You Have What It Takes to Drive Like a Pro?" the booklet stresses the use and importance of safety devices, the dangers of "show off" driving and the need for co-operating instead of competing on the open road.



"If YOU can't do anything with our catcher and pitcher, we'll trade them to the Triple I league"

Trucks Pay Shop Extra

continued from page 56

lowing figures: Truck servicing amounts to 25 per cent of the shop's volume, yet accounts for 40 per cent of the dollar gross. Any wonder that the partners are so enthusiastic about this aspect of their business?

Of course, to handle truck repairs the shop had to invest in equipment required for this work. This includes heavy-duty hydraulic jacks, heavy-duty floor crane, a wheel dolly for removing wheels, and so on.

"The same mechanics who work on passenger cars can also handle truck repair work, if they are so inclined," says Kerber. "Many mechanics like to specialize on either one or the other, with some having no preference at all. We have found that the mechanic who likes to work on trucks can adapt himself to do so in short order and quickly become a specialist at his job. Because our mechanics prefer truck work to passenger car work, we have no problems in handling either."

Truck service is promoted by Smith and Kerber through contracts which have been found to be just as favorable to the trucker as to the repairshop. The contract stipulates 24-hour, seven-day-a-week service. Road service and towing are included—at all hours regardless of distance. For this, the trucker is charged \$4 an hour for labor plus parts, \$3.50 for a road service call and \$7.50 for towing.

Full Work Load

"At the moment," Kerber explains, "we have nine contracts and are not seeking any others because we have as much work as we can handle. We are servicing all the trucks of a local oil-delivery company, have a contract with the local post office, do school bus servicing, handle a fleet of trucks for a local landscaper and service all the vehicles for a concrete mix plant—in addition to operators who have one or two trucks each."

The station employs 10 men, with three handling truck and car repairs and state inspections. About 100 truck inspections are made at every semi-annual inspection period. Three men are as-

signed to the body and paint department, with two devoting full time to the service station operation itself.

In 1957, a body shop was built alongside the repairshop. The spray booth was made large enough to hold the largest truck.

"Because we are bursting at the seams with work," Kerber says, "we try to do truck repairs in the customer's garage whenever possible. When the school buses need new brake linings, for example, we dispatch a mechanic to the school's garage and the work is done there. This, naturally, gives us more room to work in our shop."

All trucks serviced by Smith and Kerber are natural customers for TBA as well as gas and oil. Some pay cash on delivery, others are billed monthly. But no trouble is ever encountered in collecting for service or sales.

"Once a shop becomes known for good truck service," Kerber says, "it will find more and more truck business coming its way. For this reason, we don't intend to solicit more truck work until we can expand our shop facilities."

THE END. NOW TURN BACK TO PAGE 57

Engineers Nearer Fade-Free Brakes

continued from page 45

vane cooling fan is incorporated in each wheel assembly of Corvettes equipped with optional heavy-duty brakes. Made of sheet steel, the vanes are mounted between the drum and wheel hub. Wheel rotation causes them to force air across the braking surfaces of linings and drums into the ventilated backing plate.

Improve Air Flow

Other methods, too, can be employed to improve the flow of air to the brakes. Air ducts, as used in some Corvettes, can pick up fresh, cool air at the grille and direct it to the brake drums. In the rear, ventilating slots in the leading edge of the rear fender could help cool the rear brakes, just as they now supply air to the engines of such cars as the Renault Dauphine.

A return to the spoked wheel would aid brake cooling. Blade-

shaped spokes, tilted toward the direction of wheel rotation, would scoop air into the wheel assembly as it revolved.

Heat dissipation can also be improved by increasing the area of the drum exposed to the air. Studebaker, Cadillac, Buick and Corvette are among the cars using finned drums for this purpose.

Aluminum brake drums, with

their ability to get rid of heat rapidly, offer another possible remedy for the fade problem. Their principal disadvantage is the softness of the metal, necessitating the use of an iron liner, which naturally adds to the drum's cost. Buick, Pontiac and Lincoln Continental now offer aluminum front drums as standard or optional equipment. In addition to its improved heat dissipation, an aluminum drum has the further advantage of reducing unsprung weight.

Heat-Resistant Linings

While sweeping heat out of the brakes into the surrounding air gives considerable relief from fade, the use of heat-resistant linings is an additional safeguard. Two basic types, organic and metallic, are now available for service in police cars, taxicabs and high-performance vehicles.

Organic brake linings have been standard equipment on all American passenger cars for many years. The primary ingredient is asbestos.

[CONTINUED ON PAGE 154]



Engineers Nearer Fade-Free Brakes

continued from page 153

Other materials, such as particles of rubber, brass, lead, aluminum or zinc, are added to control noise, reduce wear and give the friction characteristics suitable for a particular application. Oil extracted from cashew nut shells is widely used to stabilize friction over a wide range of temperatures. The compound is held together by a binder

of rubber, synthetic resins, or a mixture of the two.

Brake lining material can be mixed to give almost any desired characteristic, but usually at the expense of other qualities. Car makers try to provide the best possible combination of light pedal pressure, long life, silent operation, fade resistance and stability in wet weather.

All organic linings fade when they reach a critical temperature. If they didn't they would destroy themselves. Heavy-duty linings

used in police cars, stock car racers and other special applications can stand up to temperatures which would make regular linings useless. Why, then, don't car makers furnish these linings as standard equipment?

To find the answer, it is necessary to examine the composition of the two types. Regular lining uses a high percentage of rubber as the binder. Friction between the lining and drum is high, resulting in effective braking with minimum pedal pressure. At high temperature, however, friction decreases rapidly and fade occurs. Heavy-duty lining uses a binder composed predominantly or entirely of resin. Its initial friction is somewhat lower, so greater pedal pressure is required. Most women and many men would find the pressure required to stop a car equipped with this lining excessive.

Use New Materials

Research and testing by car manufacturers and their suppliers is continuing to bring about substantial improvement in the fade resistance of organic linings. Improved synthetic resins are capable of operating at temperatures well above the critical points of just a few years ago. New rubber compounds, now in the laboratory stage, may make it possible to obtain the necessary combination of high initial friction and maximum fade resistance.

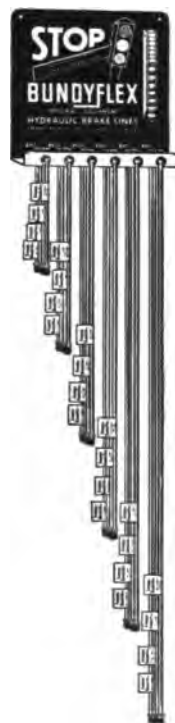
Metallic lining is a recent development which shows great promise for extremely severe operations. It is made up of particles of iron or copper, graphite and various fillers. After the raw materials have been thoroughly mixed, they are formed under heavy pressure and baked at high temperature.

Test Results

These sintered linings are virtually immune to fade. In a test conducted by Chevrolet, a car equipped with brakes of this type was driven down Pike's Peak. Hydraulic line pressure remained virtually constant for the entire 18-mile trip although front brake shoe temperature reached a maximum of over 650 deg. When the test was repeated using a car with organic linings, the brakes failed completely at 10½ miles. Line pressure had



"Makes no
difference which
year or model...
BUNDYFLEX
Lines fit them all!"



Don't confuse ordinary, stitch-welded steel or copper tubing with original-equipment Bundyflex Metal Brake Lines . . . Bundyflex is the only safe copper-fused, double-wrapped steel tubing approved by every car manufacturer in the U.S. . . . now available in space-saving, money-making Dealer Display Assortment No. 3476.

- You'll always have the right brake line ON HAND! Services 95% of car and truck replacement needs!
 - Contains 24 assorted 3/16" and 1/4" O.D. genuine Bundyflex Lines!
 - Approved for safety and longer life under the most rugged conditions, yet cost less than ordinary, stitch-welded tubing!
 - Comes ready to install! In pre-cut lengths, double-flared at both ends, with fittings assembled!
 - Your profit: 35% plus installation profits!
- Only Everhot Can Supply Genuine Bundyflex.
Order From Your Everhot Jobber Today!

No. 3476 Dealer Assortment includes colorful metal wall display and complete car application data book.



EVERHOT PRODUCTS COMPANY

2001-9 West Carroll Avenue
Chicago 12, Illinois

soared from 200 lb. to 1,100 lb. and front brake shoes had reached a temperature of over 700 deg.

While metallic linings do offer greatly increased fade resistance, they have the disadvantages of higher initial pedal pressure, reduced effectiveness at low speed and temperature, and higher cost. Improvements in this type of material have been rapid, however, and it is now offered as optional equipment by Chevrolet.

The problem of brake fade has become thorny enough to get the attention it deserves. Research has not been confined to better cooling and new materials but has included studies of new brake designs. Despite the increasing popularity of the disc brake abroad, most American engineers feel that drum brakes are better suited for our heavier cars. Since disc brakes have no self-energizing action, an auxiliary booster of considerable power would be required to give sufficient pressure without undue effort on the part of the driver. The trend toward lighter and smaller cars could change the entire picture, however, so engineers are not writing off the disc brake yet.

High performance, roadability and positive, fade-free braking should go hand in hand. American designers have achieved the first, vastly improved the second and are hard at work on the third. With a little help from the stylist, the research chemist and the head of the cost department, they should succeed.

THE END. NOW TURN BACK TO PAGE 46

Millinger Heads Missouri IGO

George Millinger, St. Louis, has been named temporary president of the newly organized Independent Garage Owners of Missouri. Clyde Wallis, Cape Girardeau, is the temporary vice president, while Charles Moore, St. Charles, is secretary-treasurer.

Norris New Head Of Kansas IGO

Melvin Norris, Salina, has been elected president of the Independent Garage Owners of Kansas.

C. A. Leiker, Hutchinson, is first vice president and Vernon Blex, Independence, second vice presi-

dent. Roy Corfman, Salina, is the new secretary. Al Grieving, Wichita, has been named treasurer.

Art Kittell, Pittsburg, retiring president of IGOA, is executive director of the Kansas association.

Denver IGO Elects

Lou Weiner is the new president of the Independent Garage Owners of Metropolitan Denver. Bill Kenz is vice president, Jimmie Kientz secretary and Ross Genteler treasurer.

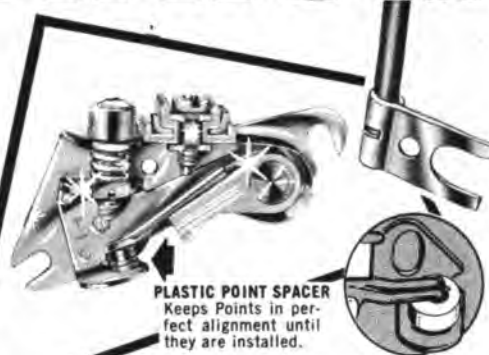
Head AMA Committees

Charles F. Moore, vice president—public relations, Ford Motor Co., has been elected chairman of the National Automobile Show Committee of the Automobile Manufacturers Assn.

D. P. Fisher, Chevrolet Motor Div., has been elected chairman of the Joint AMA-TTMA Technical Committee on Combination Vehicle Brakes, composed of representatives of the AMA and the Truck-Trailer Manufacturers Assn.

TUNGSTEN contact points and condensers now come in sparkling

CHROME



This new CHROME PLATE on TUNGSTEN Contact Points and Condensers is more than skin deep! It reflects the finishing touch to quality ignition parts, which, over the years, have proved their superiority in engineering and performance. It becomes a rustproof conclusion to a job well done!

There is no extra charge for this sparkling chrome on TUNGSTEN Contact Points and Condensers. You'll find this new parts-protection on the Super Line of individually packaged components and in TUNGSTEN Tune-Up Kits. For extra rustproof protection, contact points come with stainless steel springs.

Write for Catalog

TUNGSTEN CONTACT MANUFACTURING CO., INC.,
North Bergen, N. J.



Lock the head in any comfortable working position



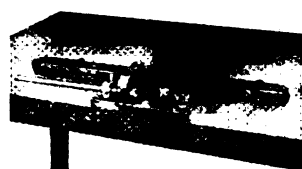
It's a lot easier to remove valves and springs when the head is locked in just the right position with a new WI-TO-CO Head Holder!



It's easy to grind valve seats with the WI-TO-CO "Feather Touch" valve seat grinder and the head locked securely in a WI-TO-CO Head Holder.



Rotate the head to lie flat on the bench for driving out or installing valve guides and seats. Cam face is hardened for maximum wear.



No cap screws, nuts, or wrenches are required to use this fixture. More efficient work is more profitable work. It's only \$31.95 List!

Ask your Jobber or Write Today!

WINONA TOOL AND MFG. CO. WINONA, MINNESOTA, U.S.A.

Can You Name It?



This car was named for an American who first achieved fame in World War I. Mounted on a 117 in. wheelbase, it was powered by a 6 cyl., L-head engine. Its most unusual mechanical feature was twin flywheels—one at the front of the crankshaft and one at the rear. This arrangement was said to give exceptionally smooth engine operation. What was the make and year of this famous, though short-lived automobile? Turn to page 169 for the answer.

Capital Close-Ups

continued from page 49

tributions are tax-free. The bill would allow the self-employed to set aside 10 per cent of annual income, up to \$2,500, for a pension fund. Taxes would be deferred until pension payments are received, by which time most incomes are reduced and taxes therefore lower.

Despite House passage by an overwhelming vote, Senate prospects are none too bright. Twice before the lower chamber has approved similar legislation only to have the Senate kill the bill. Several well-placed liberals are out to do just that again. But there are 7,000,000 people who would benefit and that's a goodly throng for the politicians to irritate. In the group are most lawyers, doctors, farmers, car dealers, and a host of others.

Awards Truck Contracts

Snatching the brass ring on the military merry-go-round were White Motor Co., Studebaker-Packard Corp., and Continental Motors Corp., all recipients of fat Army truck contracts totaling \$54,500,000. White will supply 3,976 two-and-a-half ton trucks, for \$22,500,000. Studebaker will make almost the same number for \$21,400,000, but these two-and-a-half ton trucks will pioneer the Army's new multi-fuel engine, which will run on kerosene, gasoline, Diesel fuel, JP-4 jet fuel, or a combination of these. Continental will get \$10,700,000 for 3,995 6 cyl. multi-fuel engines.

Congress Rents Cars

Maintenance costs on Cadillac limousines provided by Congress for its leaders got too high even for a spending Congress. The House Speaker, majority and minority leaders are now chauffeured about in rented cars. The cost to the taxpayers is \$500 a year, including insurance. Before the rental deal was made, repair bills for a single limousine ran well over \$1,000 in one year.

[CONTINUED ON PAGE 159]

"Premium Tire Styling At Low Cost"



PORT-A-WALL TOPPER



Bearfoot's exclusive black and white attachable sidewall gives you new profit opportunities. Your initial order for a 3 set assortment comes in this free, self-contained display. See your jobber now!

BEARFOOT AIRWAY CORPORATION

AUTOMOTIVE DIVISION • WADSWORTH, OHIO



YOUR BIG PROFIT PACKAGE

Valvoline with miracle CHEMALOY

Valvoline's expanding distribution and its bandwagon acceptance by dealers and motorists add up to outstanding profit opportunities for you. Here's why:

- / You get a bright new package, designed for maximum attention, impact and sales.
- / You get a big product advantage with the exclusive additive Chemaloy . . . which makes Valvoline the world's most modern motor oil.

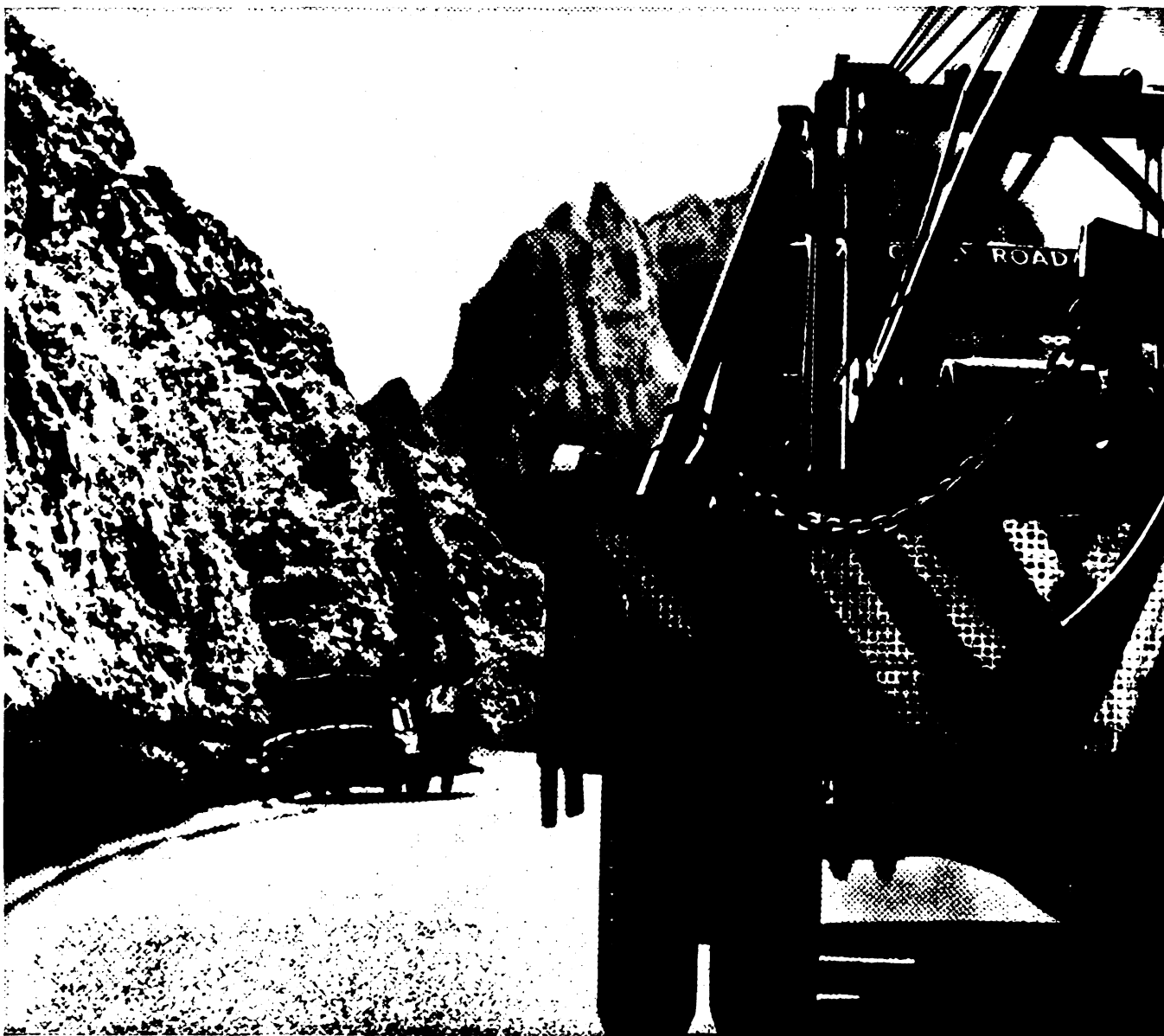
V You get the added prestige of selling the petroleum industry's oldest brand name . . . Valvoline . . . now sold in 54 countries throughout the world.

V You get national magazine advertising, with color ads in Saturday Evening Post, Newsweek, Sports Illustrated, Motor Trend, Motor Life, Hot Rod, Sports Car, Mechanix Illustrated, Antique Automobile and Argosy . . . more than 100 million advertisement exposures!

MAKE YOUR MOVE TO VALVOLINE . . . WRITE, WIRE OR CALL TODAY!

VALVOLINE OIL COMPANY • Refinery—Freedom, Pennsylvania • Home Office—Ashland, Kentucky
Division of Ashland Oil & Refining Company





MOUNTAINS ARE MURDER ON "MOLEHILL" BEARINGS

Mountain driving quickly points up the difference in engine bearings. Inferior quality "Molehill" bearings can't take it—Michigan bearings can. That's because "Turnpike Toughness" is engineered into Michigan Bearings to give them the ability to stand up under the most gruelling, long, high-speed hauls.

All materials for Michigan Bearings are specially chosen and carefully protecto-treated for maximum fatigue strength, high thermal conductivity, corrosion and oxidation resistance, superior embeddability and surface

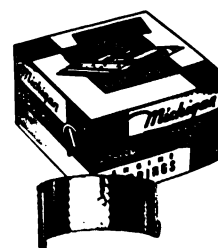
action. To assure perfect fit at every point, they are machined to tolerances as close as .000125 plus or minus. Michigan Engine Bearings for replacement are made by Detroit Aluminum and Brass Corporation—for over 36 years a principal supplier of original equipment bearings for leading manufacturers of automobiles, trucks, buses and farm equipment.

Insist on "Turnpike Tough" Michigan Engine Bearings for all your replacement needs. They're engineered to "stay on the job."

made by



Michigan
ENGINE BEARINGS
DETROIT ALUMINUM & BRASS CORPORATION
 DETROIT 11, MICHIGAN



Close-Ups

Continued from page 156

Shorts

David H. Maremont, President of Maremont Automotive Products, Inc., Chicago, has been appointed Secretary of Commerce Luther H. Hodges to the Interim National Public Advisory Committee on Motor Vehicle Development . . . James G. Ellis, Automobile Manufacturers Assn.'s Washington public relations director, is the new president of Washington Trade Assn. . . . Rep. John Lesinski (D., Mich.) has introduced a bill to issue a postage stamp in honor of Ford . . . The Army has awarded a contract for \$9,000,000 to Le Tourneau-Westinghouse, Ill., for 230 all-aluminum amphibians to be LARC's." Translation: Lighter, Amphibious, Rapidly, Cargo.

THE END. NOW TURN BACK TO PAGE 50

State Vehicle Tax Receipts Set Record Last Year

According to the Bureau of Public Roads, Dept. of Commerce, state highway-user taxes collected in the country totaled \$5,300,000,000, again a new record. The total represents a gain of 10 per cent over the preceding year. The gain, however, is only about half of the 8.3 per cent increase in receipts over those of 1958.

Receipts received last year break down as follows: \$100,000 for motor-fuel taxes, \$1,513,000,000 for vehicle registration fees, and \$411,000,000 for motor-vehicle and carrier fees.

Report shows that 64,800,000,000 gal. of motor fuel were consumed during 1960. Of this total, 6,200,000,000 gal. were tax exempt. States leading in gallons taxed were California with 5,700,000,000 gal., followed by New York with 3,700,000,000 gal. and New York, 3,600,000,000 gal.

87,360,767 Have Driver Licenses

According to an estimate prepared by the Bureau of Public Roads, 87,360,767 motor-vehicle operators were in force in the U.S. during 1960. This is 12 per cent higher than the 84,500,000 total in the preceding year. In effect, there were 1.20 operators per registered motor vehicle last year. This ratio reflects the long-term trend toward more operators per vehicle.

California led all states in 1960 in numbers of motor-vehicle operators, with 8,700,000, followed by New York with 7,100,000 and Pennsylvania with 6,000,000.

New Mexico Dealers Elect

Annual convention held in Santa Fe last year elected the New Mexico Automobile Dealers Assn. Wayne Lovelady, Albuquerque, president. Frank Hancock, Santa Fe, was named vice president and L. Jones, Albuquerque, secretary-treasurer.

OPPORTUNITY UNLIMITED

"We took the road to success with a Harley-Davidson dealership... so can you!"



1000% increase . . . and still growing!

In the words of Mr. and Mrs. Roger Soderstrom of Bloomington, Ill., a Harley-Davidson dealership presents a great opportunity for "getting ahead." And the Soderstroms ought to know: they've been selling fine Harley-Davidson motorcycles and motorscooters since 1947 . . . and the happy couple has increased the size and sales of their dealership 10 times since then.

"It's been hard work building our Harley-Davidson business, but we've enjoyed it," Soderstrom points out. "We love to meet people excited by cycling. As a Harley-Davidson dealer you combine a profitable business with a thrilling sport. This makes for good living!"

WHY DON'T YOU JOIN THE HARLEY-DAVIDSON FAMILY AS A NEWLY AUTHORIZED DEALER! Population is booming . . . and so is the market for the best, most complete line of sporting, commercial and police motorcycles.

Your original dealership investment will be low. Complete financing services are available. Harley-Davidson will back you up with a hard-hitting program of national advertising and sales promotion. Send in the coupon today.



Good looking — good location — good business! Sodie's Cycle Center — a familiar landmark on heavily traveled Route 66 and 150 — has grown from a 30x50 floor space to a spacious 300x500 interior total space in the past 14 years.



Please send me your brochure on the dealership program.

Dealer Relations Mgr., Dept. M-7
Harley-Davidson Motor Co.
Milwaukee 1, Wisconsin

Name..... Age.....

Occupation.....

Street.....

City..... Zone..... State.....

Is It Legal?

continued from page 88

age; we'll have to run downtown to get groceries and things. Could you let me have something to drive? I'll pay for it."

"We can't charge you; we don't hire out cars," Gus said. "But I guess we can lend you something."

After looking over the cars on hand, Gus told Morley he could use a five-year old Jupiter and with cordial thanks, Morley drove home.

Later in the day, Morley parked the Jupiter downtown in front of the food market and slid across the curb side to get out. In the process his knee struck a piece of sharp metal protruding from under the dashboard. Morley's trousers were slashed and he suffered a bad cut in the knee.

He demanded damages from Gus.

"The Jupiter should have been inspected before I got it to make sure it was safe," Morley contended.

Case Dismissed

But Judge Clear decided that Gus did not have to pay and dismissed Morley's case.

The judge explained, "The question to be decided is whether Hammer, the owner of the automobile, had a duty to inspect it and to determine whether it was fit for use. Now, if the loan of the Jupiter to Smith was a mere favor, Hammer had no such duty, but merely the obligation to warn Smith of any dangerous defects which Hammer knew about. (Incidentally, in this case, it is conceded that Hammer did not know about the condition of the dashboard.) On the other hand, if the automobile was handed over to Smith for the mutual benefit of both of them, then Hammer was obligated to inspect it, learn what its condition was and either repair it or at least warn Smith about it.

"Smith contends that the loan was for the mutual benefit of both parties, the benefit to Hammer being the good will which he created with his customers by loaning them a car while the customer's car was being repaired.

"I cannot agree. While the loan of the Jupiter may have created

good will and might raise the prospects of more repair business from Smith in the future, it seems to me that there must be a more definite benefit to Hammer than mere hope in order to put upon him the burden of inspection and care necessary to make him liable."

Based on case reported in 340 Pac. 2d at page 181 (Ore.)

Marks 75th Year

Celebrating its diamond anniversary this year is Champion DeArment Tool Co. Founded in 1886 by George B. DeArment, the firm was for many years a leading producer of hand tools for blacksmiths.

Although pliers represent the largest portion of current sales, a few horseshoeing tools remain from the original lines, as well as various kinds of hammers, nippers, pincers and wrecking bars.

George S. DeArment and William A. DeArment, grandsons of the founder, are president and vice president-sales manager, respectively.

Wagstaff Retires

James B. Wagstaff, a vice president of Chrysler Corp., retired at the end of last month. He reached retirement age of 65 on June 4.

He joined Chrysler Corp. in 1928 as assistant sales promotion manager for Chrysler Div. and in the following year was named first director of advertising and sales promotion for Plymouth.

In 1936 Wagstaff joined De Soto Div. as general sales manager and in 1945 was appointed vice president of that division. He became general manager of De Soto in 1958.

New England Dealer Marks 50th Year

Gilbert Brewer, Canaan, Conn., recently observed his 50th anniversary in the automobile business. Back in 1911 he and his brother Frederick opened a repairshop with joint capital of \$368.90.

Today Brewer Brothers has Plymouth-Valiant dealerships in Connecticut, Massachusetts and Vermont. The firm has more than 100 employees, 50 per cent of whom have been with the company 20 years or more.

Dealer Builds Ad Around Black Cat Legend

THE BLACK CAT!

Superstitions about the Black Cat vary. In the north of England it was considered lucky to own a black cat, but unlucky to lose a black cat. In the south of England, however, it is regarded as an excellent omen should a black cat cross the path of a bride and bridegroom leaving the church. Should it follow you with you your car, your luck is in. But it is unlikely to open your eyes to the warning and see one before your eyes close forever upon anything more. In England it is believed that motorists who follow these rules after a crash get with them some savings from their losses to another.

HAMILTON'S BEST KNOWN LEGEND IS BASED ON FACT

Many, many people know that a good used car from City Chevrolet Oldsmobile brings years of safe, trouble-free driving.

FOR EXAMPLE

1959 OLDSMOBILE 3 DOOR HATCHBACK	1959 NASH AMERICAN 2 door blue with custom model like new only
POWER, hydraulic drive	car at a low price
\$2,450	\$1,395

CITY CHEVROLET OLDSMOBILE

MAIN AT CATHARINE in the heart of the city

Eye-catching ad used by City Chevrolet Oldsmobile, Hamilton, Ontario, Canada, to promote its used car reputation

An off-beat newspaper ad built around the black cat legend caught the eye of readers and, more important, promoted used car sales for City Chevrolet Oldsmobile Ltd., Hamilton, Ontario, Canada.

Under the headline "Superstitions, The Black Cat!" appeared an eye-catching drawing of a black feline. The advertising copy read, in part, "Superstitions about the black cat vary. In the north of England it was considered lucky to own a black cat, but unlucky to meet a strange one. In the south of England, however, it is regarded as an excellent omen should a black cat cross the path of a bride and bridegroom leaving the church..."

When the legend copy ended, selling copy began. "Hamilton's best known legend is based on fact," the ad continued. "Many, many people know that a good used car from City Chevrolet Oldsmobile brings years of safe, trouble-free driving."

The ad closed with descriptions and prices for two used cars.

MOTOR, July 1961

More and more dealers are earning more and more dollars with BRIGGS

Complete selection for ride protection

SHOCK ABSORBERS

*the complete line-up
normal driving*

ARD
r Duty

IAL ADJUSTABLE
Duty

TABLE BRIGADIER
heavy Duty



BRIGGS **LOAD** ABSORBERS

New oil-air rear suspensions
specially built for vehicles
carrying heavy loads.

The best you can sell for:



**You need never miss
a single sale with**

BRIGGS

The Briggs Shock Absorber Co.
Cleveland, Ohio





GRAYMILLS *TRANS-CLENE

TRANS-CLENE cuts deep-down varnish and carbon deposits from every corner of intricate valve bodies, pumps, and other hard-to-clean transmission parts. The heaviest oxidized coatings soak loose and easily brush or rinse away. Loosens gaskets for faster, simpler removal. Safe on aluminum. Available in special 16 gal. size with dip basket and cover. Also in 6, 30 & 55 gal. drums. Send for catalog.

TRY TRANS-CLENE. YOU'LL SEE THE DIFFERENCE IN ITS CLEANING POWER OVER ORDINARY SOLVENTS. YOU CAN GET IT FROM YOUR JOBBER.

WRITE FOR FREE BOOKLET "Cleaning procedures for Automatic Transmission parts"

Provides step by step cleaning procedures that insure quality jobs and cuts down on costly comebacks.



GRAYMILLS CORPORATION

3757 N. LINCOLN AVE. CHICAGO 13, ILL.

How to Rate No. 1 With Car Buyers

continued from page 51

people who are there to sell that product.

Courtesy and enthusiasm are contagious, but so are the negative emotions. Inactive salesmen or those engaged in unimportant activities destroy part of the good impression that should be a prime objective of every dealership.

This business of continuing the romance after the "marriage" embraces many lesser things as well. It embraces such seeming trivialities as what a dealer calls his people. The men who shift cars around or bring cars out to service customers aren't jockeys; they're car attendants. Service salesmen win more public respect if, in name and act, they are service counselors. Top-flight mechanical workers are master mechanics. Not only do customers like the preferential treatment that these titles imply, but it boosts the morale of the worker as well.

Photo Display Impressive

The customer reception area should have large framed photographs of the service manager, shop foreman, and each service counselor on the wall. The photographs should be about 16 by 20 in. with enough white mat around them to permit informative lettering beneath each of them. The lettering should include no more than the individual's name, title and extent of automotive experience.

Similarly such master mechanic and journeyman mechanic should have his name, title and length of experience posted in professional form on or over his workbench.

This next one seems almost trite, but don't underestimate its value. When a customer pays his bill for service or any other purchase, his change, if in paper money, should be new. Fastidious people prefer it and others invariably are pleased to receive crisp, new bills. Many of our customers have commented favorably to me about this practice, which has been in effect in my dealership for 10 years.

Through the years we have discontinued or modified some of the practices originally adopted. For instance, we discontinued placing

those little white paper napkins in service customers' cars. We found by observation that they implied, in effect, that "we're apt to be pretty careless and have probably left your steering wheel dirty, so wipe it off yourself." Now, we make it our business to be sure the wheel is clean and omit the paper napkin. It is a subconscious impact and therefore more effective.

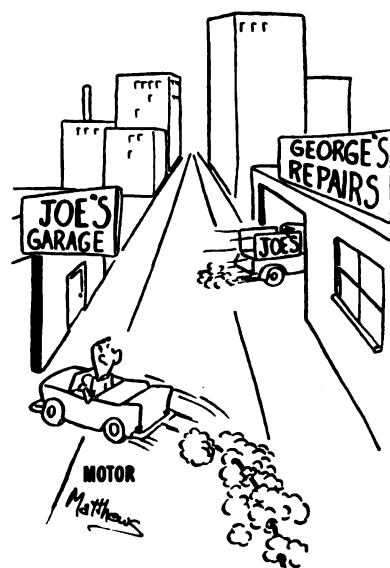
No Tipping Sign

In much the same category was a "No Tipping" sign we once posted in the area where service customers receive their cars. It was, to our surprise, a mistake. Some customers enjoy tipping and they resented the sign. After a few months' trial and observation, we replaced it with another sign, reading, "Tipping Isn't Necessary" and a few lines explaining that our people are amply paid for serving the public and enjoy doing so. This one pleases both types of customers.

Paper floor mats are excellent good-will builders if handled properly—otherwise they become an annoyance. They should be placed on the floor of the front passenger compartment as soon as the car comes in for service and left there until the customer calls for it. Then, however, they must be removed just before the customer enters his car.

If a service job amounts to \$15 or more and, if time permits, the car should be washed—with the dealer's compliments.

If a wash job is ordered and paid for by a customer, tell him he is



entitled to a free wash if it rains within 24 hours. The reaction to this one is surprisingly good, too. And the cost is peanuts.

Since ill will often results from failure to finish service work on time, failure to complete all work ordered or failure to correct a stated complaint, here is a plan that will reduce these failures (and customer complaints about them) to a minimum: (The figures are relative but the amounts are for the sake of example only.)

For each completed repair order in excess of \$16, the dealer puts \$1 into a kitty for a special monthly bonus to service counselors and shop foremen.

Fines for Failure

Then, for failure to finish service work on time, he deducts \$2 from the kitty; for failure to complete all work when promised, he deducts \$3 and, for failure to correct the customer's complaint or to do the work properly, he deducts \$5.

After the first month or two, the dealer starts paying his men a nice little bonus but it doesn't cost him a dime. He saves more than the total bonus on comeback work alone. And he acquires priceless good will to boot.

At the service cashier's window, orderliness and quiet are basic requirements. Unnecessary papers, equipment or other accumulations should not be in evidence. Noise should be reduced to a minimum—even to the extent of covering the paying ledge with rubber or cork.

Cheerful Cashiers

Few people are happy about paying a service bill. If the charge seems high or the description of work performed isn't clear, or whatever, many of them are annoyed and some express their annoyance in no uncertain tones. Long years of studying cause and effect at the cashier's window have taught us that, if extraneous noises, disorder and confusion are eliminated and if both the cashier's cage and the cashier are cheerful, the number and degree of unpleasanties drop to a minimum.

When there is a legitimate complaint, how should it be handled? This is controversial, I know, but here is how we have handled them successfully for years:

Assume that a customer has just had his car wax-polished. He pays his bill. The car is brought to the exit area. He examines it and decides the workmanship is below standard. And he registers a complaint.

The usual procedure is to try to pacify him or to justify the quality of the work or to agree to repolish the car sometime later. None of these removes the bad impression already made.

In cases like this, we advocate (and practice ourselves) an immediate refund of all of the money

paid. Then tell him that his money cannot be accepted unless the work is satisfactory. After the money has been refunded, he should be told that the car will be repolished satisfactorily at his convenience—and that, when he is satisfied, he may then pay us.

Only once in more than 10 years of pursuing this practice have we lost the money refunded. In virtually all the other cases, we have gained good will. In one memorable

[CONTINUED ON PAGE 161]



SPARK PLUG TERMINAL, PLUG VAPOR SEAL AND DISTRIBUTOR NIPPLE ALL BEND TO ANY ANGLE ON NEW PATENTED UNIVERSAL IGNITION SET

No more stocking and selection problems with new Silver Beauty spark plug wire sets! All parts are designed to bend exactly as needed to fit the tightest spots. Three sets (for 4, 6 or 8 cylinders) cover every

application. Terminals and protectors for spark plugs and distributor bend to any angle. Protectors seal plugs and distributor against dirt and vapor, prevent fouling. *Triple-A Specialty Company, Chicago, Ill.*



EVERYTHING FOR THE BATTERY BUT THE BATTERY ITSELF!

How to Rate No. 1 With Car Buyers

continued from page 163

case, a new car was sold mostly because the prospect on a tour of inspection with one of our salesmen, saw a refund being made. Later, when the customer signed the order, he said that our service attitude was so forthright that he wanted to do business with us.

Most individual motorists are either car-happy or car-conscious.

Most of them are economy-minded as well. (Even Cadillac owners check their gas mileage.) With these things in mind, we have for many years distributed small single-fold pamphlets to our customers. One of them, entitled "How to Increase Gasoline Mileage," is so popular that, after seven years and well over 100,000 copies, there is still a steady demand for it.

Others are "How to Get Maximum Mileage from Tires," "What Constitutes a Good Driver," "Engine Tune-up—What it is and Why

it is Needed," and so forth. They are brief, factual and written in layman's language.

We use them as envelope stuffers in outgoing mail and as introductory offerings by our salesmen when making calls. They are also racked up in "help yourself" cabinets in our showrooms and service department.

(If a reader would like to have a set of them, just drop me a line, care of MOTOR. It will be mailed promptly, without obligation.)

With little expense, a moderate amount of imagination and a desire for improvement, your automobile business can have the quality and appeal of a diamond instead of the dubious glitter of a zircon. Try it—for pleasure and profit.

THE END. NOW TURN BACK TO PAGE 52

BEST SHOP TOOL

any mechanic ever had



Two-Plunger Frame Pick-Up Lift

- Puts cars up where parts are easy to reach
- Mechanics can work faster, turn out more jobs
- Shop can handle more volume, increase your profits
- Handles all makes easily, even compacts and foreign models
- Fast, easy-set "swinging arm" superstructure
- Superior cable-type jack equalizing system
- Dependable Rotary hydraulic jacking systems . . . your choice of Full Hydraulic or Semi-Hydraulic



Dover Corporation
ROTARY LIFT DIVISION

Memphis, Tenn. • Madison, Ind.
Chatham, Ontario

MAIL TODAY FOR CATALOG

Dover Corporation, Rotary Lift Division
1106 Kansas, Memphis 2, Tenn.

Please send information on the Rotary Lift Model FP28 to:

Name _____

Company _____

Address _____

"500" Mechanics Awarded

Black and Decker Manufacturing Co., for the sixth consecutive year, honored mechanics whose racing cars took top honors at the Memorial Day 500-mile race.

NEW ON THE JOB

At Car, Truck Factories

RALPH H. ISBRANDT to vice president—engineering and research and JOHN C. SECREST to vice president—purchasing, American Motors Corp.

ROGER O. VALDISERRI to manager of public relations, Mercedes-Benz Sales, Inc., Studebaker-Packard Corp.

ROBERT A. ORR to assistant to the president, American Motors Corp.

ELMO L. JOSEPH to national used car manager, Chrysler Corp.

LEON SARKASIAN to manager of dealer business management department, General Motors Corp., and B. B. BILLINGS to national business management manager for Oldsmobile Div.

GORDON H. BARNES to sales promotion manager, Chrysler and Imperial Div.

C. M. RITCHEY to director of advertising, merchandising and public relations, Willys Motors, Inc.

BRUCE E. MILLER to advertising manager and M. J. ROWLANDS to sales promotion manager, Lincoln-Mercury Div.

It Pays to Please Patrons

continued from page 52

a secret," said West sarcastically. "It was quite a deal—up to a point."

"Hezekiah doesn't think so. He's got a great, galloping gripe and he can hardly wait to clobber someone."

"What kind of gripe?" demanded Cap sharply.

"Says he got charged for undercoating but didn't get any."

"I don't believe it."

Wes shrugged. "It will certainly be an easy claim to disprove," he said, "if it isn't sound."

"I'll check with Dan," said Cap. "Somebody in the shop may have slipped up."

"I thought it was the salesman's—" began Wes.

"I know what you thought. It was Clint's job to follow through. After I see Dan, we'll all have a little talk about it."

On the way to the shop, he passed Lou Butterworth, the used car manager.

"Cap seems to be steamed up a little," said Lou to Wes.

"Steamed up isn't the phrase," said Wes. "He's about to explode."

"Over what?"

"A goof. You'll be hearing about it. The lecture starts as soon as he chews out Dan Jenkins."

Lou rolled his cigar between a thumb and forefinger and observed:

"That's one of the things I like about this job. It's so educational. Anybody that'd miss one of Cap's classes is cheatin' himself."

"Sarcasm will get you nowhere,"



"It's a '61 compact—
with modifications"

said Wes, "especially if Cap hears it. And, besides all that, you're the one that benefits most from the lectures."

"Maybe," said Lou, ejecting a smoke cloud, "you could polish another apple or two and get excused from this afternoon's session."

"I'd rather come and watch you fidget," said Wes.

As it turned out, Wes was only a middling prophet. Cap did call Wes, Lou, Dan and the salesman into his office but the meeting did not turn out to be the stern lecture Wes had foreseen. Cap was actually a bit apologetic for calling in the men. He looked them over as they sat in a rough semicircle before his desk and cleared his throat.

"A few minutes ago," he said, "I finished talking with a customer about the sloppy delivery of his new car. We charged him for undercoating and didn't put it on. Somebody almost lost us a customer we'd spent years to land."

The glances exchanged by the group were suspicious rather than accusing.

"Stop guessing," said Cap. "We're not here to hang a dead cat on anybody. We finally got the customer's hackles smoothed down. I told him an emergency had come up, so the salesman hadn't been able to deliver the car personally. He gave Dan the keys and asked him to turn them over to the customer when he drove in. It never occurred to him to ask Dan to check the car."

"I shoulda done it anyhow, I guess," said Dan.

"That's beside the point," said Cap. "The thing that bothers me is the risk we ran of losing a customer. Perhaps we've done it, anyway. All because we didn't keep our word."

"This isn't the first time it's happened, either on the sales end or back in the shop. Of course, we've always had good excuses. We've been too busy or the customer misunderstood our promise or it was all a mistake. Finding excuses may make us happy but they never satisfy the customer."

"People do make mistakes once in a while," said Wes.

[CONTINUED ON PAGE 166]



Tool Tips for the Mechanic

Corvair Engine Nuts

The SNAP-ON® FS-10A FLEXOCKET® will fit those hard-to-get-at engine hold down nuts on the Corvair. Page 24, Catalog X.

Ford, Falcon, Chevy Radio Antennas

Use the LHS-36 hole saw for installing radio antennas on the Ford or Falcon; the LHS-32 hole saw for installing antennas on the 1961 Chevy; the LHS-30 for antennas on the 1960 Chevy. Page 102, Catalog X.

NEW TOOL



Snap-on S-9481

Parking Brake Adjusting Wrench

Tool is designed for late model Chrysler products where the rear transmission cross member has been relocated and partially covers parking brake adjustment opening. The specially shaped end makes the necessary adjustments while the Boxocket® end is used to remove and replace cover plate bolts. Tool works on both old and new Chrysler products having an internal-expanding hand brake adjustment. Get one now from your SNAP-ON man.

Ford Feeler Gauge

The 359D feeler gauge is designed specifically for Fords. It contains four spark plug gap bent wire feelers .025 to .035; two straight wire feelers for voltage regulator cutout .017 to .030; five ignition finger blades .013 to .025; fourteen step ground blades .010-.012 to .025-.027 and an electrode bender. Page 82, Catalog X.

Chrysler, Dodge, DeSoto Distributor Wrench

Try the SNAP-ON S-9476A double hex distributor wrench for 1954-60, 8-cylinder Chryslers, DeSotos and Dodges. Tool has longer shank to clear wires around distributor. It's a time-saver. Page 80, Catalog X.

SNAP-ON TOOLS CORPORATION

8047-G 28th Avenue • Kenosha, Wisconsin

It Pays to Please Patrons

continued from page 165

"I don't know *anybody* that don't," said Lou, shifting his gaze from Cap so no one could immediately spot his target.

"Granted," said Cap. "We all goof. But that's no concern of the customer."

"If we was to take care of all the gripes customers make," said Dan, "it would shoot all the profit we make out back. Everything's always

our fault; the customer's always perfect."

"Dan's right," said Wes. "We've got to draw the line somewhere. We make little enough on a car as it is. We've already got a 12-month warranty to fulfill. If we start giving customers everything they *think* they ought to have, we might as well close up."

Cap was silent a moment, then leaned back in his swivel chair.

"Do you men have any idea of how much it costs to create a new customer?" he asked.

There was a chorus of silence.

"I don't know precisely," said Cap, "but it could be figured out. We could take the total cost of all our promotion for a year and then divide it by the number of new customers we sold. In a town like Morrisville, there aren't many new customers to get but our promotion budget is fairly generous, so our cost per new buyer is high.

"I've seen figures on other operations and some of them are almost startling. I realize we have to keep selling new people because old customers die or move away but, while they're still here and breathing, I insist it's cheaper to keep them satisfied than it is to pay the price of supplanting them with new ones.

"Over and beyond that, we spend a good share of our advertising dollars on so-called prestige ads. It's good business because it has paid off in the past. We keep telling the public that we mean what we say—that we stand by our word.

"All we have to do to lose that reputation—and a customer—is to fail just once. When we do lose a customer because we failed to keep a promise or do an honest job, we know it's going to cost a good round penny to replace him.

"So," said Cap sitting up straight in his chair, "why not save a few bucks by spending fewer to set the matter straight with a customer?"

"You mean you hold with this cast-bread-on-the-waters business?" asked Lou, lighting the cigar which he had been neglecting.

"In a way, yes," said Cap. "It's worked in the past. The trouble is, most people—and dealers, too—aren't satisfied with it. When they cast bread on the waters, they want to get back strawberry shortcake."

—Edward Ford

Next month—Cap renews the argument on renewed parts.

NOW TURN BACK TO PAGE 53

Mechanic Wins Prize

George Bignotti, owner and chief mechanic of the car which won the Indianapolis 500 race, was presented by Wynn Oil Co. a diamond-studded lapel pin together with a \$1,200 cash award.



FIT ALMOST EVERY CAR

WITH JUST **Two** GABRIEL THERMOSTAT MODELS

YOU MAKE MONEY with NO INVENTORY PROBLEMS

EYECATCHING 16-THERMOSTAT DISPLAY CONTAINS JUST 2 DIFFERENT NUMBERS. PUT IT ON YOUR COUNTER. HANG IT ON THE WALL. AND PICK UP THERMOSTAT PROFITS THE EASY WAY.

- Designed by automotive engineers for new cars and replacement use.
- Self-cleaning poppet valve for trouble-free long life.
- Positive seal for faster engine warm-up, top heater efficiency.
- Engineered for newest high pressure cooling systems.
- Accurately calibrated for instant response at correct temperature.
- All brass and stainless steel corrosion-proof construction.

ASK TO SEE your jobber salesman's Thermostat Demonstration Kit... see actual working parts in operation.

Learn More About Thermostats and Cooling Systems!

FREE! "Let's Talk Thermostats" brochure. Packed with valuable tips and illustrations for everyone who sells or installs thermostats. Helps boost thermostat sales.

Standard-Thomson Corp. Dept. H67, 152 Grove Street, Waltham 54, Mass.

Yes, I'd like a copy of your free brochure "Let's Talk Thermostats."

Name.....
 Company.....
 Street.....
 City.....Zone.....State.....

Gabriel THERMOSTAT

The Quality thermostat line manufactured by

STANDARD-THOMSON CORPORATION
 Waltham 54, Mass.

What Detroit Is Thinking

continued from page 41

next model year. Now that the so-called medium price compacts have established themselves and with more brands and body styles forthcoming in this class, lower-priced compacts are expected to give ground to the newer entries, just as the late low-price three lost business to Falcon, Corvair and Valiant when those brands were introduced.

Preview Dates Conflict

Detroit appears bent on an every-man-for-himself approach in setting up '62 model announcement programs. Car builders usually make an effort to avoid conflicting with each other on press and public announcements, the premise being that the cars draw bigger audiences if each vehicle has a day to itself. Not this year. Unless some dates are changed, several makes will compete for attention at September previews.

Aluminum Gains Favor

Although aluminum has a long way to go before attaining the industry acceptance that makers of the metal foresee for it, the purchasing department of a Big 3 company has issued orders indicating that upwards of 20 per cent of its '62 model engines will be of aluminum construction. This would represent an impressive gain in use of the light metal, considering aluminum's low standing of a few years ago. But 20 per cent of one company's engine output is still a far cry from an industrywide swing to all-aluminum engines.

To Poll Owners

General Motors has reportedly retained an outside firm to poll compact owners on the question of their interest in a vehicle smaller than current compacts. GM, unlike Ford, has not committed itself to produce a sub-compact size vehicle.

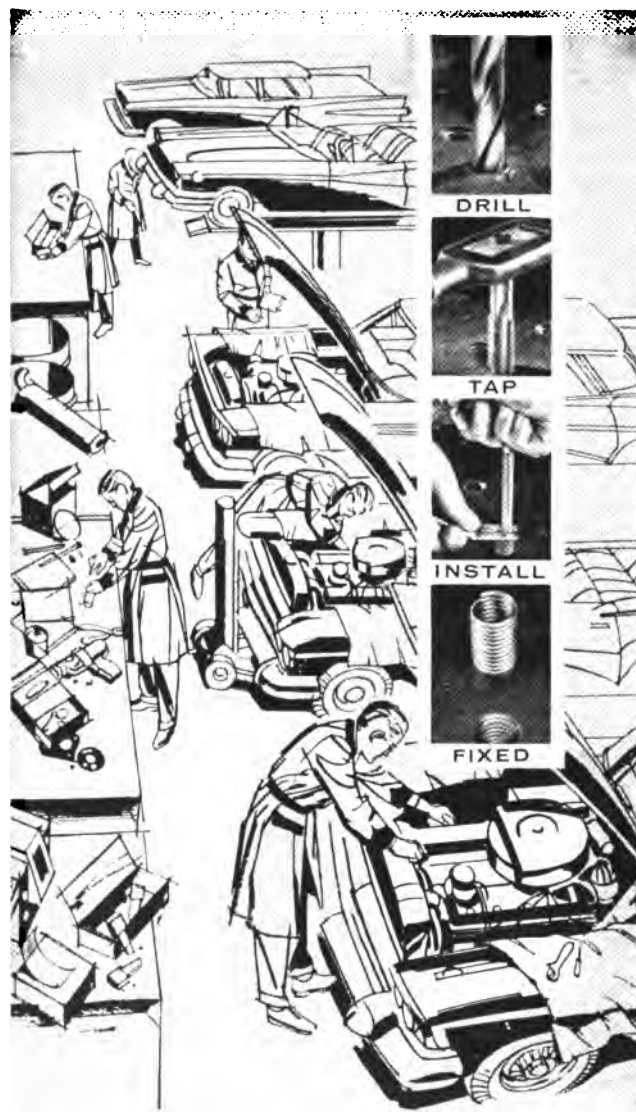
No Price Conspiracy

The price-rigging convictions in the electrical industry could result in some changes in car company pricing practices this fall. That is not to suggest that car firms have conspired on prices. But an outsider, unfamiliar with the way the industry operates, might be able to make a convincing case—convincing to the public—to the contrary.

Two divisions of one company, both of which sell products in the same price bracket, will frequently have identical prices down to the last penny. Two divisions of different parent companies have been known to price their wares within an even \$1 of each other model for model. And, in a few instances, companies have changed prices immediately after a competitor has announced new prices.

This is not conspiracy, although that face could be put on it if you ignore the many factors involved in pricing an automobile. Thus, to avoid the possibility of being tarred, car producers will consider some changes in pricing practice this fall.

THE END. NOW TURN BACK TO PAGE 42



Repair Stripped Threads ...even in Aluminum FOR MORE SERVICE PROFITS!

Make thread repairs in minutes, for only pennies per hole. Use **HELI-COIL®** Stainless Steel Wire Screw Thread Inserts to restore threads to original dimensions... no need to change screw sizes! Permanently prevent wear, stripping, corrosion, galling and seizing. Provide lifetime protection to tapped holes in all metals... even in aluminum, magnesium and other light materials.

HELI-COIL EZY-KITS contain individual EZY-PACKS of inserts in selected sizes, plus installation tools. Popular combinations for all car and truck engines, in all thread series and sizes. MM sizes in all reaches for spark plug ports, and inserts for taper pipe threads also available.

For descriptive literature, including Metric and Whitworth Thread Conversion, and name of your **HELI-COIL** jobber, write...

2800



HELI-COIL CORPORATION

4607 Shelter Rock Lane, Danbury, Conn.

In Canada: ARMSTRONG BEVERLEY ENGINEERING LTD.
6975 Jeanne Mance St., Montreal 15, Que.

POWER changes toughest tires easily

on a **Bishman** AIR-ELECTRIC Tire Changer

Air Powered double bead breaker and Electric Powered mounting and demounting take the work out of changing the tightest tires. Built-on wheels make it the ONLY completely portable power tire changer.

Self centering 3 jaw chuck holds all drop center wheels AND rims 12" through 17½". Change tires on compacts or Cadillacs, trucks or house trailers, easily and safely with a BISHMAN #880-61 AIR-ELECTRIC Tire Changer.



Powerful **Bishman** AIR BREAKER makes this LOW COST Tire Changer a BIG BUY

Powerful BISHMAN air cylinder and "rolling action" bead breaker shoe break the tightest beads from 12" through 19½". "Posi-Lock" wheel holder locks with a flip of a lever. Bishman combination mount-demount tool, built-on tool holder, one quart "Rub-Er-Slide," applicator and "no-drip" can holder included.

Sold only through Automotive Equipment Distributors. Ask yours for a demonstration in your shop or write:

Bishman MFG. CO., ROUTE 2,
OSSEO, MINNESOTA

Seek Better Licensing Methods

Through a grant from the Automotive Safety Foundation a comprehensive study will be carried out under auspices of the Highway Research Board to find better methods of registering and titling motor vehicles.

The study, which will take two years to complete, is designed to evaluate present registration and titling practices in the states and to help develop guides for lawmakers and administrative officials in dealing with current and future problems. Moreover, the study is aimed at fostering uniformity among state laws and practices and opening new areas of information for urban planners, enforcement agencies, highway engineers and other interested organizations.

Louis R. Morony, director of the ASF laws division, will head the project committee.

Car Tire Shipments Turn Up

According to the Rubber Manufacturers Assn., manufacturers' shipments of passenger car tires during April totaled 9,099,881 units, an increase of 12.6 per cent above the 8,081,591 units shipped during the preceding month.

Truck and bus tire shipments amounted to 1,132,555 units for April, as compared with March's 1,084,356, an increase of 4.44 per cent. Shipments of automotive inner tubes for April came to 2,901,814 units, a decline of 19.12 per cent from the preceding month's total of 3,587,604 tubes.

Profit Tips from...



V-BELTS
and
HOSE



DOR-TITE and
SPONGE RUBBER



TUBES and REPAIR MATERIAL

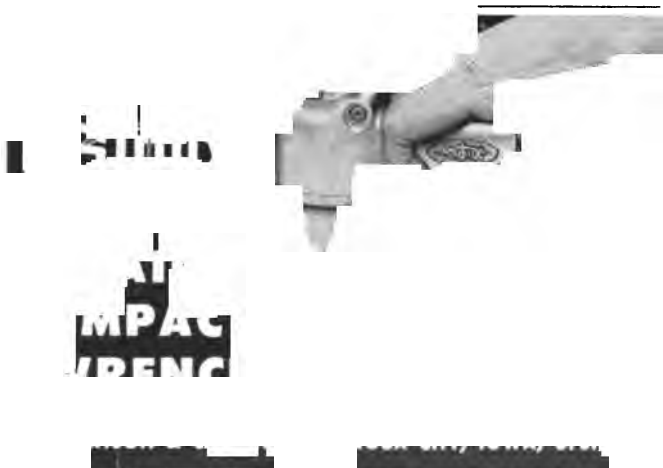


AUTOMOTIVE
CHEMICALS
ADHESIVES
and TAPES



• HIGH PROFITS • FINEST QUALITY
• MERCHANDISING AIDS • FREIGHT ADVANTAGES
DURKEE-ATWOOD COMPANY

Minneapolis 13, Minnesota



THE LIFETIME READING PLAN

CLIFTON FADIMAN

introduces you to 96 of the world's greatest authors with a brilliant evaluation of their major works. THE LIFETIME READING PLAN is an invitation to discover the pleasure of reading good books.

75c

For a complete catalog of Avon Books in print, write: Avon Book Division, The Hearst Corporation, Dept. C, 250 West 55th Street, New York 19, N.Y.

Thomas Abbott New NADA President



Thomas F. Abbott, Jr.

Thomas F. Abbott, Jr., Pontiac-Rambler dealer, Fort Worth, Tex., was elected president of the National Automobile Dealers Assn. at a special election held last month. Abbott, who was named first vice president at the NADA's annual convention in San Francisco early this year, succeeds the late Walter B. Cooper.

John H. Lander, Dodge-Simca dealer of Atlanta, Ga., was named first vice president.

Make Summer A TBA Bonanza

continued from page 49

Too much pressure, on the other hand, causes wear in the center of the tread and makes the tires more susceptible to breaks in the cords.

Of course, if any tire is worn, the condition should be brought to the attention of the owner. He should be advised of possible tire blowout on the open road.

A service shop's efforts to increase summer TBA volume need not be restricted to the point of purchase—that is, displays, signs and employee sales pitches.

Small-space newspaper ads and direct mail can bring in regulars and non-regulars as well. A good way to attract prospective TBA buyers is to offer a free service. While the ad might stress the shop's accessories, the offer could be, "We'll safety-check your car's tires and brakes at no charge." Or, if the

ad is keyed to vacation-bound motorists, "Come in before you go and get free, up-to-date road maps."

Handbills can be used to good advantage, too. They can be distributed house-to-house, on the street and in the shop. In the last instance, urge employes to give handbills to customers waiting for gas. The effort could pay off in a sale.

In all advertising copy, tell the prospect *why* he should buy a particular accessory and what it will do for *him*. "Be more comfortable

while you drive this summer—buy a seat cushion! We have the style and color you want."

Remember, you have a box seat in the year-round TBA sales game. But this summer don't be an on-looker; get into the fray. Efforts are paid off in dollars and cents.

THE END. NOW TURN BACK TO PAGE 49

Can You Name It?

Answer to problem on page 156

The car is a 1922 Rickenbacker.

Valves at your fingertips...



- Tremendous initial sale of this Dispenser-Pak enables us to reduce the price from \$20.50.
- Contains 50 Snap-In Valves which means a dealer gross from \$37.50 up.

Puts valves where you want 'em, when you want them. Just reach a few inches from your tire changer and you have the two standard sizes of snap-in valves at your fingertips. An easy pull and you make up to 69¢ net profit.

The Dill Dispenser-Pak includes 50 valves, 30 T-151-R for 15" wheels and 20 T-13-R for 13" and 14" wheels. All valves packed in translucent tubes (10 to a tube) for visible inventory control.



Order No. 5254 from
your supplier.

Free 5-color mobile and
safety gage included.

DILL®

Manufacturing Company
700 E. 82nd St. • Cleveland 3, Ohio
Offices in Los Angeles, Akron, and Toronto



Put Spring Back In Leaf Springs

continued from page 53

A complaint of a crunching noise on Comet or Falcon rear springs may be due to interference or chafing of the rebound clips against the main leaf rather than to worn liners and interleaf friction. This can be corrected by driving a thin chisel between the main leaf and clips to provide a clearance of approximately $\frac{3}{16}$ in.

A clicking or scraping rear spring noise on 1961 Thunderbirds with plastic leaf tip liners may be corrected by replacing the plastic liners at the front and rear leaf tips with impregnated felt liners.

Two-piece rubber bushings are used at the front hanger bolt and rear shackle mounting and pivot bolts on all 1960-61 Ford Motor Co., Rambler American and 1959-60 Oldsmobile rear spring installations.

Chrysler Corp. springs have the two-piece rubber bushings at the

shackle bolts and one-piece rubber and metal bushing pressed into the front hanger eye of the spring. This type bushing, which has a rubber insulator sandwiched between inner and outer tubular metal shells, is also used on hangers and shackles of Studebaker springs, in which a bushing is pressed into the front hanger eye and the rear shackle eye of the spring.

Worn or deteriorated bushings are usually indicated by heavy knocks while traveling over rough roads or bumps. In any event if the condition of a bushing is questionable, a pry bar can be used to exert pressure against the end of the spring to determine looseness of the spring on its hanger bolt or shackle. Bushings should not be exposed to oil, grease or rubber lubricants.

Replace Hanger Bushing

If front hanger-bushing replacement is required on a Chrysler Corp. spring, a combination puller and adapter is available for removing the old hanger bushing and pressing the new bushing in one operation.

To remove a spring for replacement or new bushing installation on a Dodge, Plymouth, Chrysler or Imperial, the rear shackle should first be removed after the car and axle have been jacked and the lower shock mount disconnected. The next step is removal of the front hanger nut and bolt, then the U-bolts and plate.

Recommended spring installation procedure on the above Chrysler vehicles calls for finger-tight installation of the hanger bolt and nut, U-bolts and shackles in this order, followed by torquing of U-bolts to 60 to 80 lb.-ft. and shackle nuts to 40 lb.-ft. After the jacks are removed and car weight is on the wheels, the hanger bolts should then be torqued to 65 lb.-ft.

Install in Eye

When replacing the rubber hanger bushings on Oldsmobile springs, the outer rubber bushing only is installed in the eye before positioning the spring in its front hanger. The method of installing the inner bushing is to insert the bushing into the eye through the hole on the inside of the hanger bracket. Soap and water can be

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used to ease installation, if required.

On a Falcon or Comet rear spring installation, after the shackles have been tightened to 13 to 20 lb.-ft. and U-bolts tightened to the same tension, the car axle should be raised on stands to place the spring at its curb load position and the hanger stud nut torqued to 30 to 40 lb.-ft.

Each front hanger bracket on Studebaker models has two hanger-bolt mounting holes. The left spring hanger bolt should be installed in the lower hole of the left bracket, and the right spring bolt in the upper hole of the right bracket.

Sagging springs and rear axle misalignment are due to loose spring U-bolts or a broken center pin. These two conditions warrant checking. Since most current leaf springs are designed with a flat or slightly reversed arch, the presence of this negative arch cannot in itself be considered sufficient cause to replace springs without a careful check of the chassis rear-riding heights.

Measure Riding Height

On Comet models, rear riding height is measured between the axle housing and the side rail's underside approximately $\frac{1}{4}$ in. to the rear of the bumper bracket flange. With tires at recommended inflation pressure, the height on sedan models should be $6\frac{5}{16}$ in. and on station wagons $6\frac{15}{16}$ in., with an allowable tolerance of $\frac{1}{4}$ in. on either model.

On 1961 Lincoln Continental, the normal rear height measured from the same relative locations is $8\frac{1}{4}$ in. with allowable limits ranging from $7\frac{1}{8}$ to $8\frac{3}{4}$ in. This is an average of two readings, the first taken after pushing the rear bump-

er down 1 in. and releasing, and the second taken after lifting the rear bumper 1 in.

The riding height on all 1959-60 Oldsmobiles is $6\frac{1}{8}$ to $6\frac{7}{8}$ in., from the top of the housing to the side rail bottom behind the rubber bumper.

There are two methods of measuring to determine rear axle shifting due to loose U-bolts or a sheared center pin. One check is by diagonal measurement from one of the attaching bolts on the axle housing, or each backing plate, to a crossmember corner or side rail reference point on the opposite side.

Alternate Method

The alternate method is measuring the distance from the front edge of the U-bolt forward on each side to a frame rivet, bracket or similar reference point at the same location on each side rail. On Ford frames, a locating hole at the rear of the front hanger bracket on each side rail can be used for this measurement. With either method of measuring, distances should be equal within $\frac{1}{8}$ in. of each other. A distance variation greater than this amount indicates the axle is out of line with the frame and front wheels. This can be corrected by replacing the center bolt or tightening the U-bolt.

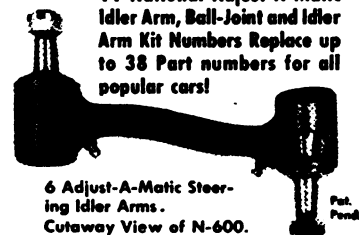
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Sales Movie Wins Award

"Ya Gotta Let Em Know," an AP Parts Corp. movie for dealer and wholesaler meetings, was awarded first place in the sales promotion category of the American Film Festival, which is sponsored by the National Visual Presentation Assn. and the Sales Executive Club of New York.

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Leading Automotive Manufacturers in July 1961 MOTOR

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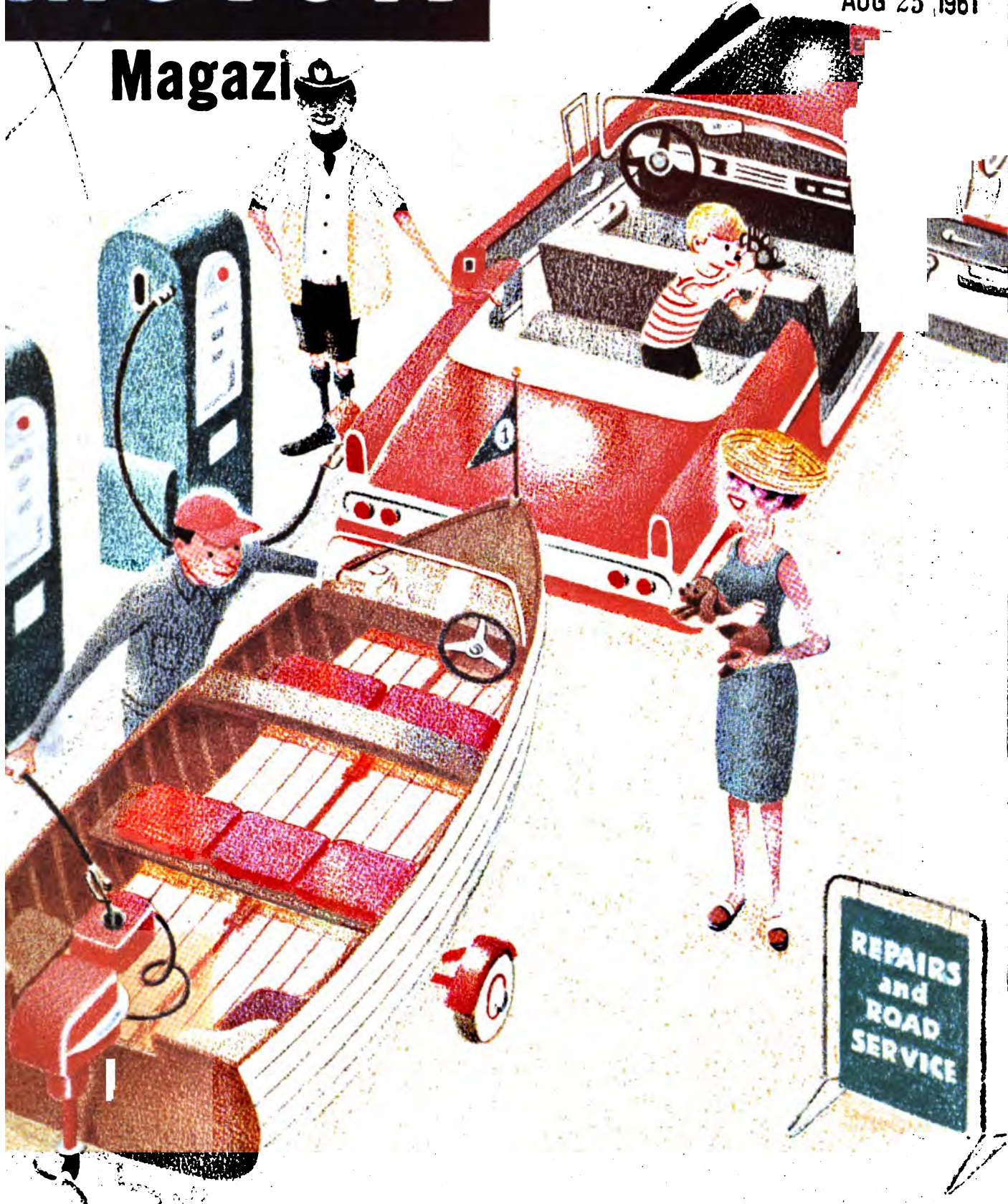
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THE UNIVERSITY
OF MICHIGAN
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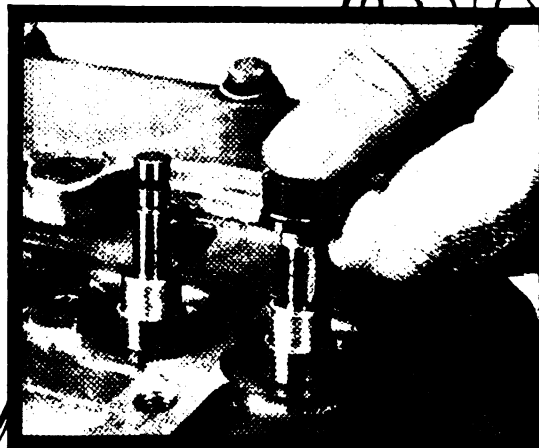
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AUGUST 1961

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AS **MOTOR** GOES TO PRESS

Last-Minute News . . What It Means . . What's Ahead

Retailers Encouraged By Trade of Black Ink

While new car sales last month were not exactly exciting, a good many dealers ended the month with a bit of black ink showing on the books. This was encouraging in view of the expected summer doldrums and the disappointing sales in the first 10 days. Some dealers now think it possible to go through the third quarter with a profit, to finish the year with money in the bank, feats that seemed fantastic during last winter's bleak days and in early spring.

August Production To Be Cut in Half

This month's production of new passenger cars is scheduled at about half the July total. The August goal is 175,000 units of which about 40,000 will be 1961's, mostly Ford and Chevrolet. This compares with the July output of 401,000 cars. Barring labor trouble, the September rate will be pushed up to about 500,000 units, all of them 1962's.

Sales Push Ahead Of Year-Ago Total

One of the cheering notes last month was the fact that sales added up to 435,000, not a record-breaking total but substantially ahead of July, 1960, when sales dropped sharply to an unexpected 410,000. Neither factories nor dealers were disappointed with last month's performance.

Make Better Deals As Stocks Shrink

Dealers making a profit can thank the gradually melting inventories of 1961 cars. Under less pressure, they can afford to wait for better deals. Discounting occurs but not to the same extent as in previous years. Last month peeled 40,000 cars off dealer stocks, which stood at 885,000 units on Aug. 1. With no production of 1961's this month, further reduction can be expected. Dealers will have about two weeks in September before new model announcements.

Demand Still Strong For Used Compacts

Not unexpectedly, the used car trade has turned soft in most areas. Sales are down, inventories up. As in previous years, many used car buyers are shopping new car salesrooms in search of clean-up bargains. Others are waiting until 1961's are being traded in on 1962's. Prices are slightly lower, except on compact models for which the demand continues to run well ahead of supply.

Chrysler Still Seeks Outside Executives

Election of Lynn A. Townsend as president of Chrysler has not stilled Detroit reports the company is seeking outside for executive manpower, either as aide to the new president or to direct his activities. Under long-standing Chrysler policy, the board chairman directs policy and that office has been left vacant.

Chances of Finance Disclosure Bill Slim

It looks as if the two-year effort of Senator Paul Douglas to gain enactment of his bill (S. 1740) to require full disclosure of finance charges will stretch into a third year. Unless Congress continues in session longer than now expected there will not be time for even the Senate to act this year. The Senate banking subcommittee has at least one more hearing planned later this fall.

Tardy Deliveries Seen for 1962 Models

Although dealers will shortly have a full complement of showroom samples of 1962 models, it may take two to four months to fill orders for some vehicles. New additions invariably present problems in production and this year's entries, assembly planners say, will be no exception. With availability limited, dealers will have to persuade prospects to put up substantial deposits as a hedge against their going elsewhere.

Prices to Hold On Popular Models

Report from car company insiders is that factory economists have won out in an argument with costing departments on what direction prices should take on new models. Economists voted against a price boost on

the grounds that car buyers are skittish enough without hitting them with higher tags. Cost estimators took the position that increases in costs justify a nominal hike in prices. Some deluxe cars may go up, but breadwinner models are seen holding steady at 1961 levels.

Auto Union to Ask Washington's Help

Beginning the morning of Aug. 20, car makers and the United Auto Workers will settle down to serious negotiations on a new labor contract. Everything up to now has been in the nature of preliminary skirmishing. Pattern from here on is not hard to guess. Union will accept the industry's top offer and then appeal to Washington to step into the talks.

Inventory Headache Varies with Dealer

Wide variance in inventories of dealers handling identical brands points up the need for improvement in new car distribution, one of the National Automobile Dealers Assn.'s several goals. Although the total inventory tally is favorable, situation among individual retailers is uneven, with some outlets crammed to the wall while others report shortages. One reason for the imbalance is that factories fail to weigh local economic conditions when shipping cars to dealers.

Factories to Ration New Makes in Fall

For the first time since the Korean War, car makers will resort to rationing this fall. Dealers have been notified they will be limited to three or four units per month on certain models (new makes of cars and new body styles) until late in November or mid-December. Recalling criticism by both cus-

tomer and dealer in other years when new offerings were rushed through with defective components, factories want a chance to test production models before opening up full blast.

Chrysler Full-Size Cars to Show Gain

A car that was not even considered a contender for sales honors when 1961 models were announced last fall will hang up an impressive victory next month. When the count comes in on 1961 model sales, the Chrysler brand will have registered more deliveries of standard-size vehicles than in the previous model year, an achievement not equaled by any other conventional size car. Such a showing belies the claim from some quarters that the full-size car is a dead item.

Not All Dealers Happy with 1962's

Informal poll of dealers in Detroit for previews found most of them pleased with new models. Some retailers feel that industry is making a mistake in overdressing the cars and larding on chrome, a throwback to a styling gimmick of five years

ago. Dealers also express the opinion that, with more models than ever before, it will be difficult to do a volume business in any one line.

Factories to Push Luxury Compacts

Dealers can expect plenty of pressure to push luxury compacts in the new model year. Other producers want to duplicate Chevrolet's showing with its premium-price Corvair Monza. This version has been garnering almost half of Corvair's business. Luxury editions produce fatter profit for factories, hence the pressure will be on dealers to deliver more of the more expensive models.

GM, Chrysler to Test Rivals for T-Bird

Both GM and Chrysler seem to have hit on the same strategy for measuring the market for cars to compete with Thunderbird. Both firms will seek to test demand by inserting highly dressed, high-priced products in their regular lines in the fall. The cars will not hit the T-Bird straight on, because they will not be divorced from parent lines.

Brief but Important

Reports that the Big 2 might discontinue certain of their standard-size products are without foundation....Buick's Special, which got off to a slow start compared with its compact counterparts at Pontiac and Oldsmobile, is now selling at the same rate or slightly better than Tempest and F-85....Clean-up of '61 models has been surprisingly free of wild-eyed advertising, excluding habitual violators who run razzle-dazzle year 'round....Ford is unhappy with foreign contractors involved in pre-production work on its minicar, Cardinal. Bungling by suppliers could delay the vehicle until late summer of next year....Pontiac will drop one series for '62, replace it with a new luxury car....Sales of compacts, now nearing 38 per cent of the total market, are expected to bite off at least 40 per cent by year's end....Dealer who complained to a factory official that mix of models has grown so large that he is unable to finance a representative stock was told he should find a secondary source of financial assistance "so you can carry more models."

Demand for Service Skips Summer Lull

Running contrary to the usual seasonal pattern, the demand for service and repairs made a comeback in July after an unexpected dip in June and gave every indication that it would remain strong during this month. Heavier work was not so plentiful as some garages and service departments would have liked but the volume of lighter work more than offset this lack. In most cases, July volume surpassed June's and for a good many shops it was higher than for the same month last year. Car dealers and garagemen who extend credit on service work report collections slow but not desperate. The outlook is considered by most shops to be encouraging.

Jobbers' Sales Head Up Again

After the June slide-off in sales, wholesalers' volume during July showed a gratifying increase. In many cases, sales topped July of last year when the 1960 boom first began to lose steam. They would be better still, some jobbers say, if repairmen could be induced to bring their stocks up to normal. The only real complaint, though, is that collections are gradually getting tougher.

Parts Makers' First Half Tops 1960 Mark

Parts and equipment makers did more business in the first half of this year than in the like period of 1960, according to the Motor and Equipment Manufacturers Assn. Companies reporting sold 7.53 per cent more goods in the first half of 1961 than last year. The gain was shared by every category, although equipment makers showed the smallest gain. Sales in second quarter topped the first quarter by 7.3 per cent.

New Ford Brands Three Months Off

Ford's new mid-size series - one for Ford Division, another for Lincoln-Mercury retailers - will not go into production until after the company's established nameplates have bowed. This puts an October-November date on dealer shipments.

Buick Has Exclusive On GM's V-6 Engine

Buick reportedly has an exclusive for at least one year on GM's new V-6 engine and will not share the plant with F-85 and Tempest before 1963 models, if then. The other GM divisions might offer the plant as an option a year from now, depending on Buick's experience with it.

Price Overlap in 1962 To Be Worst in Years

Upcoming model year will see still more crowding of car prices, instead of the improvement hoped for by dealers. Area of peak competition will be in the \$2,400 to \$2,800 range, where the new senior compacts will be pegged. Overlapping of prices in this area now surpasses situation that existed in the old medium-price market when competition was at its fiercest.

Car Leasing Firms' Views Sway Detroit

Leasing firms, long ignored by Detroit, are beginning to exert considerable influence on factories. Car makers have recently discovered that recommendations or product criticism by leasing concerns can have a decided effect on sales. Factories do not pay much heed to suggestions from lease operators on styling, but they listen with respect when rental firms complain of engineering or service shortcomings.

**MOTOR****Editorial**

Specialist or Generalist?

It is hardly a ripple as yet, but the makings of a possible new wave are to be noticed in the automotive service field.

For several years, the tide has been running strongly toward specialization. This was perhaps inevitable in face of the tremendous growth in vehicle population. For the first time, it seemed possible for a shop to limit its efforts to one class of work and still get sufficient volume to make a living. Specialization then opened the door to chains, a fact that spread consternation among independent garages.

One-job shops soon ran into difficulties. The general repair shops—generalists as opposed to specialists—fought back, and even the specialty chains soon found they had to broaden the types of service they offered.

Now among many successful independent shops the conviction is growing that broader appeal—a wider variety of services—is the way to attract more customers. Repairmen can expect to see owners of modern cars less often than they did the owners of 1950 or even 1955 cars, because today's vehicles need service less often. The logical thing to do, if owners make fewer calls on shops, is to bid for more customers. Some thoughtful garage-men believe the way to do this is to offer a full range of repair service—as near complete, one-stop service—as possible.

Getting back into general repair work will take courage for shops thoroughly imbued with the idea of specialization. In all cases, it requires caution. It would do more harm than good to fit out a shop to handle any and every kind of repairs and then have the equipment stand idle because the expected volume of work failed to develop.

The idea, though, is fascinating. It may be the sensible way to offset the less frequent contacts a shop has with the owners of late-model cars.

EDWARD FORD
Editor

Dealers Can



By Robert Lund

Detroit Editor of MOTOR

Unless automobile dealers do something more positive than grouse about factory forcing of cars, the new model year that gets under way next month will see an even more crucial build-up of inventory than the hulking stockpile that depressed profits this year.

The one sure way of holding stocks at a reasonable level is, of course, for dealers to order less merchandise. Factories say this is cutting off a finger to cure a hangnail. Dealers need more merchandise, not less, factory savants argue, because of the increased number of models being produced.

The idea is sound enough, if you overlook the fact that excessive inventory stifles dealer profits. Word gets around that stocks are heavy, dealers themselves get anxious to unload and profits suffer.

Additionally, the cost of financing inventory eats into earnings, taking a heavy cut of profit dealers could keep for themselves if they were not required to carry such staggering stocks. (See June issue of MOTOR Magazine, page 38, for an analysis of how inventory expense drains profit.)

As factories further increase the multiplicity of

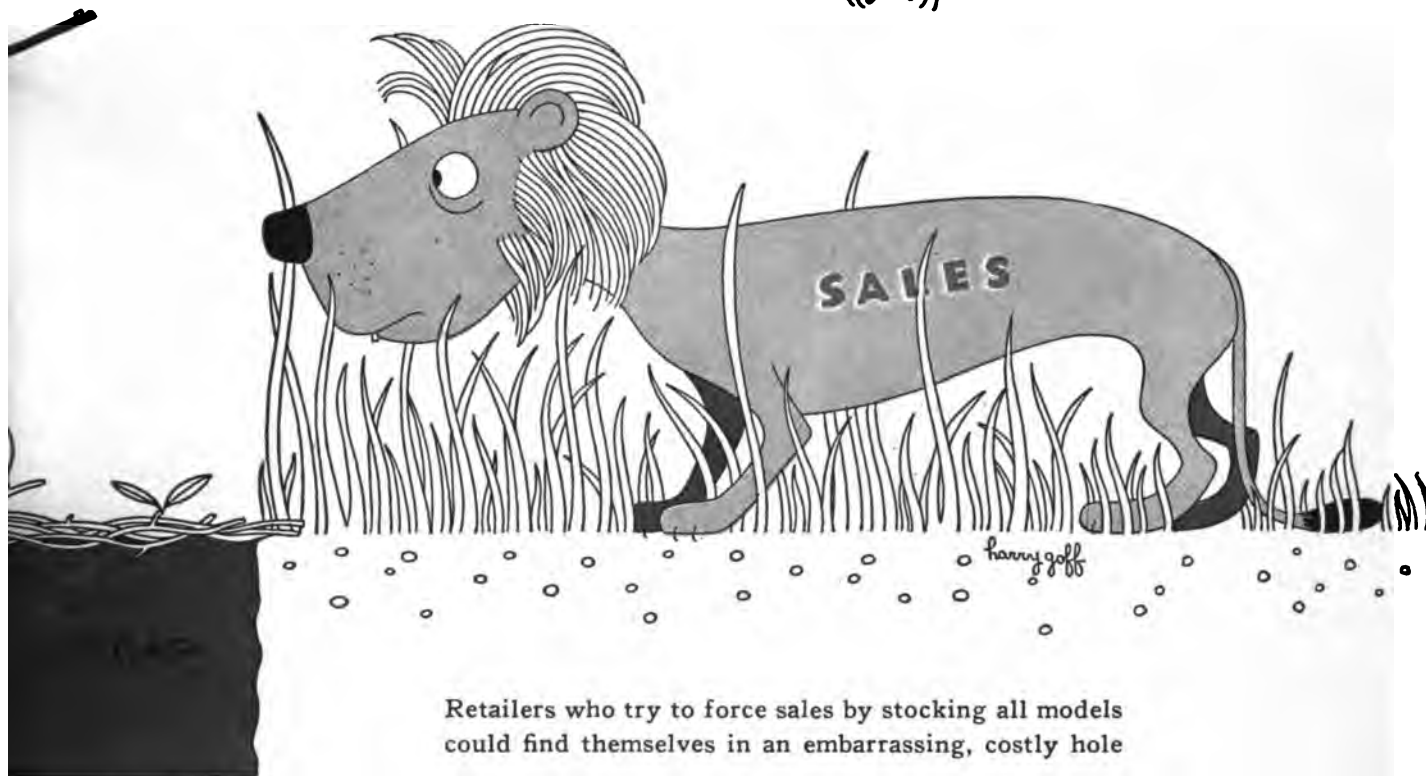
makes in the next model year, the tendency will be for dealers to order still more stock. Thus, the inventory overflow will continue. And it could get much worse.

The reason dealers find themselves overstocked is obvious enough. Most merchants order for inventory, rather than ordering specific cars for specific customers. This being the case, the only way dealers can avoid being smothered by the cost of maintaining oversize inventories—and still come out with a profit—is by selling off the shelf, selling more customers out of stock and not on special order.

In selling on special order and holding high stocks at the same time, dealers create a conflict that works against their chance of making a profit. Ideally, special orders should go up when inventories are down. Conversely, when inventories are up, special order should go down. The reason retailers have run into inventory trouble in recent years is because they have tried to combine high stocks with a high rate of

Lick Inventory Challenge

Selling off the shelf, as this timely article explains, provides only sensible solution to problem of how car merchants can hold large stocks and still turn a profit



Retailers who try to force sales by stocking all models could find themselves in an embarrassing, costly hole

cial orders. Put the two together and the result is a car surplus.

Why settle for the navy blue job on the floor, the customer reasons, if the dealer will special order a duplicate in sky blue? Thus, inventory gathers dust. When the navy blue number is eventually sold, it will not return as much profit, if any, as its special-order counterpart because most of its potential profit will have been consumed by interest on floor planning and the other expenses involved in keeping a car in stock.

Dealers are not in a position to stem the Niagara of models pouring out of Detroit. And, despite their complaints of "too many new models," they show no inclination to pull back on inventories. With more models than ever before in the next model run, selling off the shelf offers the only answer to the question of how dealers can hold high inventories and still make money.

The first rule of selling out of inventory is the first

rule of retailing: Order only what you can sell. Naturally, no dealer intentionally orders cars he cannot sell. But many merchants do load themselves up with slow-selling merchandise, cars for which they have few calls, off-beat color combinations, seasonal novelties on which the factory has shaved the price (beware the factory bargain!) and other oddities.

If a dealer insists on carrying big banks of inventory, why not limit the load to the most popular numbers in the line? As long as dealers are buying for inventory and not with specific prospects in mind, why stock special-order merchandise?

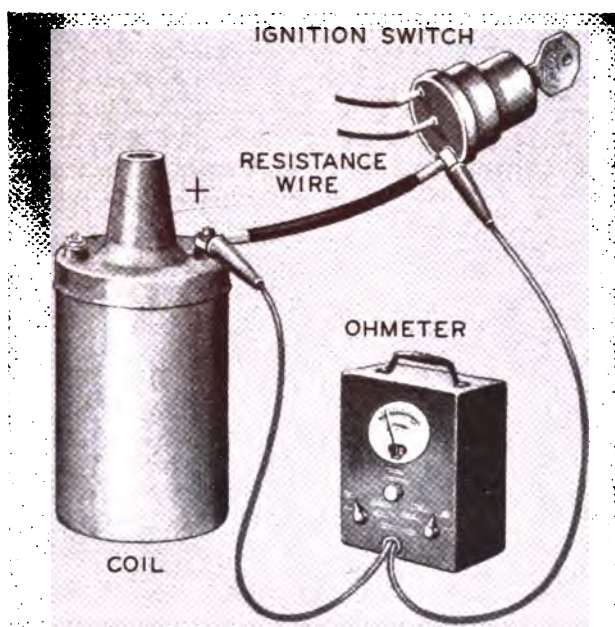
Selling off the floor begins with sound inventory practice. All that amounts to is ordering models that will appeal to the widest number of prospects.

The foregoing also applies to accessories and other options. By consulting his records, a dealer should be able to gauge how many buyers will want automatic transmissions, radios, heaters and other extras.

In buying for stock, it is usually to the dealer's advantage to under-order on accessories, rather than over-order. Most top selling [CONTINUED ON PAGE 155]

Be Sure Primary Resistance

These procedures will help you check and, when necessary, replace the new wires used in most 1960-61 cars



Ohmmeter leads are connected to coil and ignition switch to obtain direct reading of resistance on Buicks, Cadillacs and Studebakers

By William J. Moreland
Technical Editor of MOTOR

The special resistance wires used in the primary ignition circuits in most 1960-61 cars are new. And like most new things, they require different test and replacement procedures.

If all is not right with primary circuit resistors—whether they be the old block-type ballast or the new—the car owner will encounter a variety of woes. For, as every repairman knows, excessive primary resistance reduces coil output and results in poor performance. Too little resistance, on the other hand, will permit an excessively high current to flow across the distributor breaker points, causing the points to arc and burn.

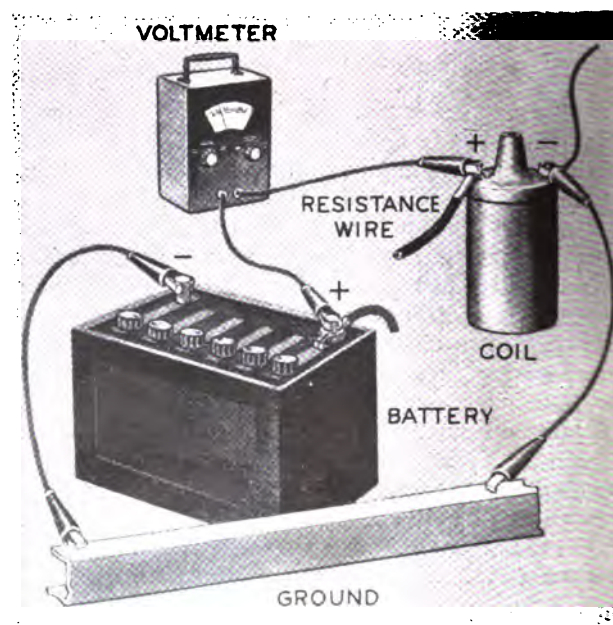
The special resistance wire used on most 1960-61 Ford, General Motors and Studebaker-Packard cars, and on some 1959 models, is contained in the regular wiring harness. Besides the difference in appearance, there is a difference in the way the two resistances work.

The block-type ballast resistor, when cold, has a

low resistance to aid starting. The resistor becomes extremely hot when the engine runs. This increases the resistance and reduces the current flow across the points. The special resistance wire is approximately 5 to 6 ft. long and is made of stainless steel or a special alloy, plastic-coated and covered with a glass braid. There is a relatively small temperature rise and the resistance wire is switched out of the circuit for starting and back in again for running.

Test procedures for the new resistance wires are simple. An ohmmeter can be used to take a direct reading of the wire's resistance. A voltmeter can also be used, in most cases, to measure voltage drop across the circuit, or voltage available at the primary input to the coil. Test recommendations vary with the different cars.

In 1960-61 Fords and Falcons, check the voltage drop across the resistance wire. To do this, connect one voltmeter lead to the accessory terminal on the ignition switch, and the other lead to the primary input terminal on the coil. Connect a jumper lead between the primary output terminal on the coil and ground. Be sure all accessories and lights are off before turning on the ignition switch. If the voltmeter



To measure voltage drop on Lincoln, Mercury and Comet cars, voltmeter leads are connected to the battery and coil positive terminals

Right

is 6.6 volts or less, the resistance wire is satisfactory. If it is higher than 6.6 volts, replace the resistance wire.

1960-61 Lincoln, Mercury and Comet, measure voltage drop in the primary circuit between the battery and coil. Connect one voltmeter lead to the positive post on the battery and the other lead to the terminal on the coil. Connect a jumper from the primary output terminal on the coil to ground. When the ignition switch is on and the ignition circuit is at operating temperature, the voltmeter reading should be not more than 7.0 volts, or less than 5.5

volts. If the drop exceeds 7.0 volts, check back through the primary circuit to determine the point of high resistance. The allowable drop across the resistance wire is 5.5 to 6.5 volts. The drop across the rest of the primary, not including the resistance wire, should be less than .5 volts.

1959-61 Chevrolet, 1960 [CONTINUED ON PAGE 172]

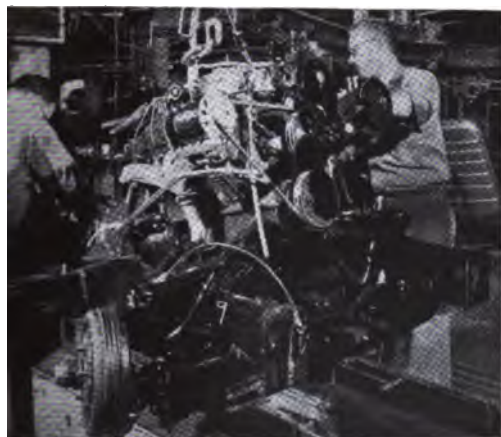


To determine voltage available on Chevrolets, Oldsmobiles and Pontiacs, voltmeter leads are connected to coil input terminal and ground

What Detroit Is Thinking

By Robert Lund

Detroit Editor of MOTOR



Medium Price Field Shrinks

Once crowded medium price field, hardly a shadow of its old self of a few years ago when every major manufacturer except Cadillac had an entry in it, is expected to narrow down still more in the new model year. As a result, dealers holding the Oldsmobile may have this area of the market all to themselves.

Oldsmobile has had no serious competition from Chrysler since last year when Mercury and Pontiac dropped to a lower price notch and De Soto withdrew. The GM division has felt some pressure

from a new source, Chrysler Div.'s \$3,000 Newport series, but this maker's products are still regarded as luxury vehicles, not medium-priced cars, by most motorists.

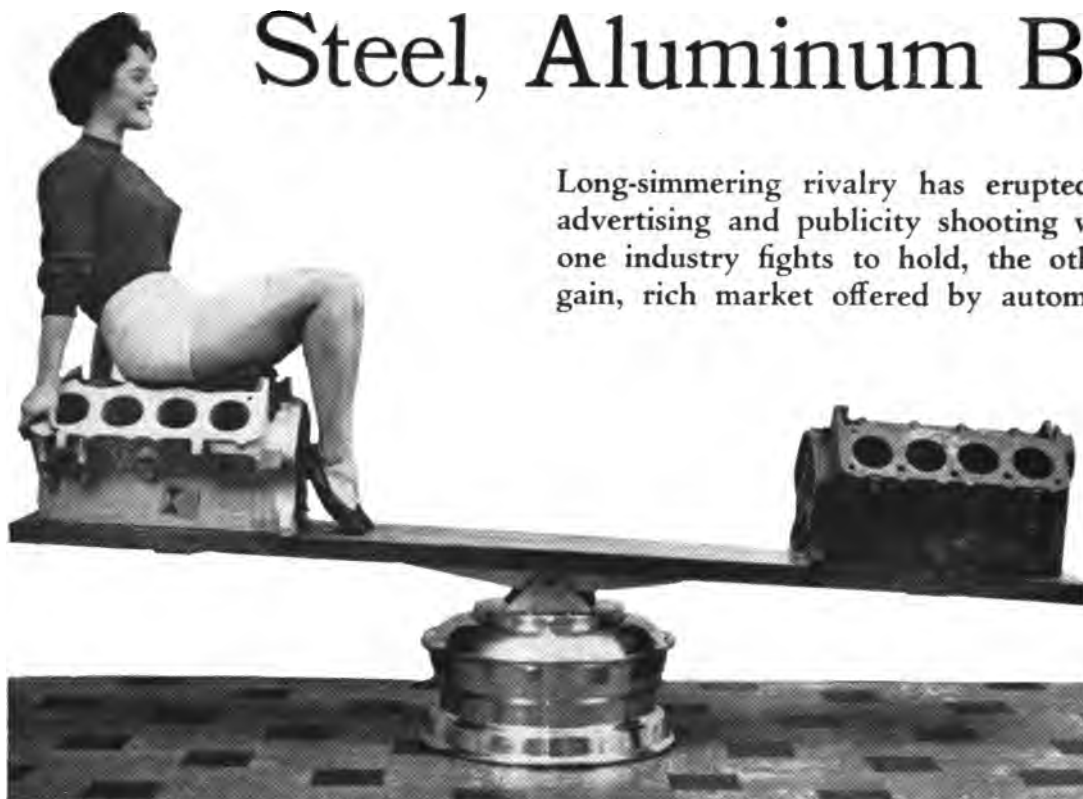
Word now is that Buick, long a rival of Oldsmobile, will go the Pontiac route in 1962. Like Pontiac, Buick will seek to attract a younger age group. Buick, and other competitors, too, will continue to turn out cars in the Oldsmobile class, but they will direct their big guns elsewhere, leaving Oldsmobile a clear field with middle-aged, high middle income customers.

In a way, Oldsmobile is in a situation similar to the position American Motors was in a few years back. At that time AM had the compact field to itself—and prospered accordingly. But it didn't take long for other producers to jump on the bandwagon. And if Oldsmobile has a fat year in 1962, the competition will be back in 1963.

Strong Dealer Following

One of the pluses Clare E. Briggs is said to have had going for him in winning the No. 1 post in the merger of Chrysler and Plymouth divisions under a central management is a [CONTINUED ON PAGE 168]

Steel, Aluminum Battle



Long-simmering rivalry has erupted into advertising and publicity shooting war as one industry fights to hold, the other to gain, rich market offered by automobiles

Bright metal's weight advantage is dramatized in this picture from aluminum maker. Aluminum cylinder block weighs 90 lb. and cast iron 220 lb.

Aggressive promotion of their products by aluminum companies has finally shaken the giant steel industry out of its complacency. Ever since World War II, representatives of various aluminum producers have been camping on the doorsteps of automobile manufacturers, armed with suggestions for new applications of the lightweight metal.

Their persistence has paid off to such an extent that the average amount of aluminum per car reached an all-time high of 62.8 lb. in 1961 models. The automotive industry now is second only to building construction as a consumer of aluminum, accounting for 200,000 tons a year, or about 10 per cent of total production.

Despite the inroads of aluminum, suppliers of iron and steel for years showed no outward signs of concern. Car factories continued to use about 14,000,000 tons of steel a year. Steel still accounts for approximately 65 per cent of the weight of a typical car, while another 19 per cent is iron. Barely 2 per cent is aluminum.

Two major developments alerted iron and steel suppliers to the possibility of serious trouble ahead.

Aluminum needs fewer machining operations, say its makers. Oil pump housing (left) is 85 per cent finished. Machining cast-iron unit (right) will account for 85 per cent of part's final cost

The first was the aluminum engine, which replaced the biggest chunk of iron in the automobile. This change created a double threat. If aluminum engines were widely adopted, not only would the industry's consumption of iron be sharply reduced, but much of the foundry equipment used by the car factories themselves would become obsolete.

The second big scare for the steel industry was the introduction of an experimental aluminum bumper, which was tested extensively by a number of automobile companies. At least two makers seriously considered it as a standard production item. Steel executives, threatened with the loss of an estimated \$40,000,000 market, decided the time for action had come.

The first direct action was the offer to at least one



for Car Makers' Favor

By Walter O. Koehler

Engineering Editor of MOTOR

car factory to supply a stronger, lighter steel for bumpers at the same price they were paying for conventional stock. As a result, the manufacturer decided not to use aluminum bumpers.

Next, officials of Great Lakes Steel Corp., the country's largest producer of steel for bumpers, held a press conference. Before an audience of magazine, newspaper, wire service and TV reporters, they fired shotgun blasts at steel and aluminum bumpers to simulate the action of gravel being thrown up by other vehicles. While the aluminum bumper was dented, the surface of the steel bumper showed only slight pock marks.

Both types were then mounted on the front ends of small plant-trucks. When the two trucks pushed against each other, the aluminum bumper collapsed. Finally, both bumpers were dipped in a hot cleaning solution, said to be of the same type used by car washing establishments. Both the surface finish and the base metal of the aluminum bumper were damaged, while the steel bumper showed no ill effects.

At the same press conference, Great Lakes Steel announced a hard-hitting advertising campaign to publicize the advantages of steel for bumpers.

Aluminum suppliers, of course, are not about to cease their efforts to break into this lucrative market. A spokesman for Reynolds Metals Co. claims that the extruded aluminum bumper, a different type



Steel's corrosion resistance is superior to aluminum, reads message accompanying this publicity picture. In tests bumpers are dipped in what is said to be typical car-wash cleaning solution

from the one used in the Great Lakes demonstration, is 50 per cent lighter, yet stronger than steel, because metal thickness can be varied. Heavier sections are located where maximum strength is needed to resist impacts and jacking stresses.

To the charge that aluminum bumpers lack the durability of steel, proponents of the light metal reply that intercity buses have been using them for nearly 15 years. While aluminum companies acknowledge a setback in their drive for a portion of the bumper market, they predict that one car maker will swing over in 1963.

By contrast, the aluminum engine has already gained a foothold. Corvair, Buick Special, Oldsmobile F-85, Pontiac Tempest, Rambler, Dodge and Plymouth now offer aluminum powerplants as standard or optional equipment. Production of the die-cast cylinder blocks used by Rambler and the two Chrysler Corp. divisions will reportedly be expanded to provide wider availability [CONTINUED ON PAGE 140]

In another picture sent out by steel firm, steel bumper (right) has collided with one of aluminum (left). Steel bumper, naturally, won the contest



Like a student who bones up before a big examination, new car salesman must map out next day's activity the night before

Salesmen Must Be Prepared

They can get ready to answer opportunity's knock, this dealer declares, by arming themselves with more knowledge of cars and buyers

By Harlan A. Klepfer,

Klepfer Brothers, Inc., Buffalo, N. Y.

Before a lawyer will enter a courtroom he'll research and prepare his case. A student seeking a passing grade will study well in advance of the big examination. In fact, in all areas of successful human endeavor, preparation precedes action.

The new car salesman, no matter how many years he has been in the business, is no exception. He, too, must prepare today for tomorrow's selling.

First, he must know *what* tomorrow's assignment is before he can prepare for it. The best way to do this is to make a written plan or schedule of the next

day's work. This will be his assignment to study and prepare for.

When should this plan be made? The best time is just before the salesman leaves for home at night. All notes, messages and correspondence that have been received during that day should be consolidated. The schedules of the previous day or two are then checked for any unfinished deals and these are added to the list.

The following day can be divided into suitable work periods. After marking off hours to be spent on the sales floor, the salesman should arrange his work sheet in the order that will be convenient for himself and his customers.

He must plan the route he is going to cover for out-

side calls, figuring enough time for necessary paper work, such as sending out mailing pieces, birthday cards, letters and personal "thank you" notes to customers who have taken delivery of cars the day before.

Part of the salesman's preparation for selling is to go through his personal index file of owners and prospects that have been carried forward to be contacted "next month." Tomorrow might be the right time for such contact!

Most important of all, the salesman must mark down on his work sheet appointments for demonstrations and deliveries.

Schedule Can Be Flexible

Now, it isn't necessary for a man to stick rigidly to this daily work plan if something important unexpectedly crops up. The principal purpose of scheduling tomorrow's work is to help a man arrange his time in a profitable and useful manner.

After having planned his next day's work, a salesman will automatically think about it on his way home. And as he thinks about it, ideas will come to him that will help the next day.

It is like knowing you have to make a speech at the end of the week. You start on Monday to think about what you are going to say and by the time Friday rolls around you have thought of many things during the week that you can use in your speech. If, on the other hand, you learn that you have to make a speech five minutes before you are to step on the stage, you can never go before the audience as well

stock, but is in the shop being made ready for display, don't tell the prospect to come right down with his wife. Tell him you know of just such a car that is coming in a day or two and that it is well worth waiting for. Then call back and invite him, his wife and family down to see it when you know it will be ready to show.

I suggest this because virtually all women and most men cannot get enthused over a dirty car that has the hood up, parts missing and perhaps two wheels off. They just can't visualize how nice it will look when the work is finished.

Once the date is made to show the car, the salesman can start preparing for the sale. He should put a "red tag" on the car and mark the inventory card so the car doesn't get away from him. Moreover, he must follow the car's progress through the shop so it will be ready on time and that he will have a chance to drive it himself to be sure that everything is right for the demonstration. As we all know, nothing ruins a sale faster than an unsatisfactory demonstration.

Part of the salesman's preparation should be devoted to making sure he will be able to find a set of dealer plates, that the battery is charged and there is plenty of gas in the car. He should start the engine and see if the lifters run quietly, and check the car over so the light switch or door handle won't pull off in the customer's hand. It just takes a few "goofs" like these to throw a salesman off stride and to make him lose confidence and enthusiasm. Pretty soon he finds himself apologizing for instead of selling the car.

Another part of a sales- [CONTINUED ON PAGE 160]

to Sell

prepared, or as confident, as you would be with a well thought-out presentation. Hence, the more thought given to tomorrow's selling, the easier it will be to assume the leadership in the presentation and in closing the sale.

In preparing for an appointment with a prospect, it pays to arrange a time when both the prospect and his wife, or all the parties interested, can come in together. This, of course, will eliminate the "road block" in the sale when he says, "Thank you, I'll be back later. I can't sign anything unless I talk to my wife first."

When the time for the appointment is set, it is most important to have the car they want to see *ready* for viewing. For example, when you receive a call about a certain type car which you *know* you have in

Lack of advance planning invites grief, this happens when salesman tries to interest prospect in a car not made ready



CLEANS UP ON AIR

A minimum of effort, coupled with a convincing merchandising tactic, helps this station owner sell as many as 50 to 60 new units every month

It is doubtful whether any motorist ever gives a second thought to his air cleaner. It's there, under the hood and right under his nose, but that is the extent of it, as far as the customer is concerned.

By ignoring this vital accessory, the customer is in effect relying upon his automotive service shop to care for it and remind him when replacement time is due. The shop that ignores air cleaners is leaving the door wide open for another to walk in and make the sale.

This state of affairs is fully known to and appreciated by Fred Burch, operator of a service station in Lawton, Okla. He and his employees consistently take the sales offensive and, by doing so, rack up as many as 50 to 60 new air filter sales every month of the year.

A heavy percentage of these sales—about four out of five—can be traced to the car wash attendant and the mechanic who does lubrication. Every time a car comes into the shop for a wash or lube job, the air filter is removed from the car and given to Burch to check. He carries the ball from there.



Here, Fred Burch has placed customer's old filter and a new one on testing device. When light is turned on, customer sees the contrast

Of course, when a customer complains of carburetor trouble, the first thing Burch does is to check the air filter and he'll do so even if the customer says, "I think it was only recently replaced or checked." Their memory, he has found, is not too reliable when it comes to air filters.

If Burch suspects there is a need for replacement, he has a simple but highly convincing selling tactic. He invites the customer into his office and places the old filter on a special air cleaner testing device and turns on the light switch. Then he removes the old one and places a new unit on the machine.

Makes Comparative Test

This comparative test is good in itself but Burch goes one step further. He makes a "layer cake" by placing the old filter on the bottom and the new unit on top of it. The old unit, nearest the light source when the light is turned on, becomes a dark layer while the new filter is a bright layer. The evidence is incontestable and with a little selling effort Burch convinces the customer it's time to buy a new air filter.

"The chances are," Burch says, "that when a new air filter isn't included in a tune-up, the customer is going to come bouncing back claiming his gas mileage is still down."

"We explain to our customers that an increase in gas mileage pays for the new air filter in the course of time. Inasmuch as the customer will buy a new suit, when he is told why, it's a mistake to overlook the sales opportunity. And, after all, it is one of the easiest TBA installations you can find and profitable, too."

A former mechanic at a local Ford dealership for 11 consecutive years before taking over the station, Burch came to the conclusion early in the game that if he were to realize his TBA potential, a mechanic would have to guide the sales of these high-profit products.

CLEANERS

"Without mechanics," Burch quickly points out, "our TBA sales volume would drop off at least 70 per cent."

He added that more and more motorists are relying on mechanics—in whom they have confidence—to advise them of their tire, battery and accessory needs.

"Alert island attendants can push certain TBA items," admits Burch. "But it's just as easy for them to scare customers away with their over-selling tactics."

Burch averages about 15 and 20 tune-ups a month and just about every tune-up includes a new air filter. His oil sales average about 25 cases a week. And a new oil filter is sold along with 75 per cent of the oil changes.

Gallage at this eight-pump station averages 30,000 a month. Traffic is good and Burch and his men constantly strive to build a steady TBA sales volume. Their efforts have paid off where it counts—at the cash register.



First step in selling process at Burch's, Lawton, Okla., is to remove air filter from car. It is then given to owner Fred Burch to check

Capital Close-Ups

By Bert Mills

Washington Editor of *MOTOR*



Expense Account Law Drafted

President Kennedy's program to crack down on expense account abuses by business men is in the process of being watered down by Congress but an eventual law tightening present restrictions is probable. Passage may not come until 1962, unless the current Congressional session is prolonged well past Labor Day. A tentative draft of a revised bill has been revealed by the House Ways and Means Committee so that reactions of business men can be obtained before final passage. The automotive field has a special interest because many of the "horrid examples" cited by the administration involved car dealers who had succeeded in writing off the costs of operating yachts.

As the proposal stands now, there won't be a law banning yacht expenses but the amateur yachtsman will bear the burden of proof to show a direct and concrete business purpose. No longer will "creation

of good will" be accepted as sufficient reason for deductibility of any entertainment expense. Exact records, complete with names, dates, and places, will have to be kept to justify all entertainment and travel expense. Business gifts would be limited to \$25 a year per individual. The cost of a business lunch would remain deductible, if reasonable and provable, but not if in a cabaret.

Dues and fees paid to "any social, athletic or sporting club or organization" would be a non-deductible personal expense under the new plan. Kennedy's proposed \$30-a-day limit on travel expenses has been scrapped, along with a \$4-to-\$7 ceiling on food or drink tabs. Instead of the dollar limits, taxpayers would be called upon to substantiate all such claims in full detail as to time, place, and purpose. The Treasury would be required to draft new and tighter regulations to define what is "reasonable" as to travel expenses.

[CONTINUED ON PAGE 162]



1 Side impact on this 1960 Rambler American damaged door, quarter and wheelhouse panels



2 After removal of quarter panel, a pull and hammer are used to straighten wheelhouse panel

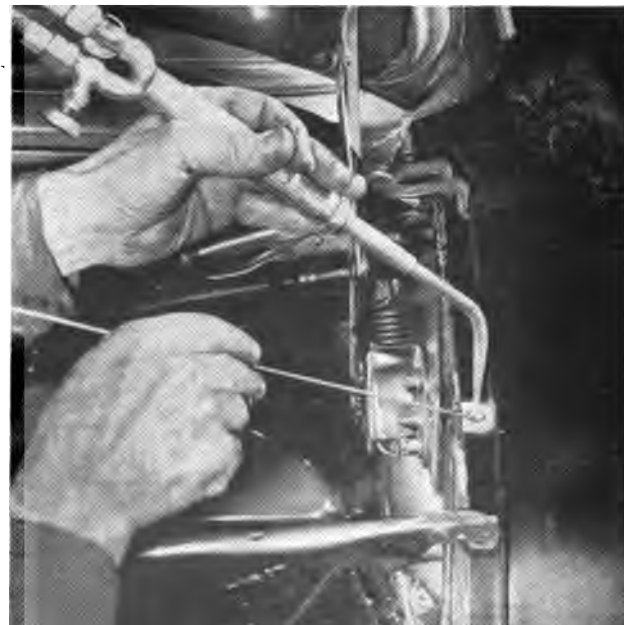
Correct Jacking Speeds Up Unitized Body Work

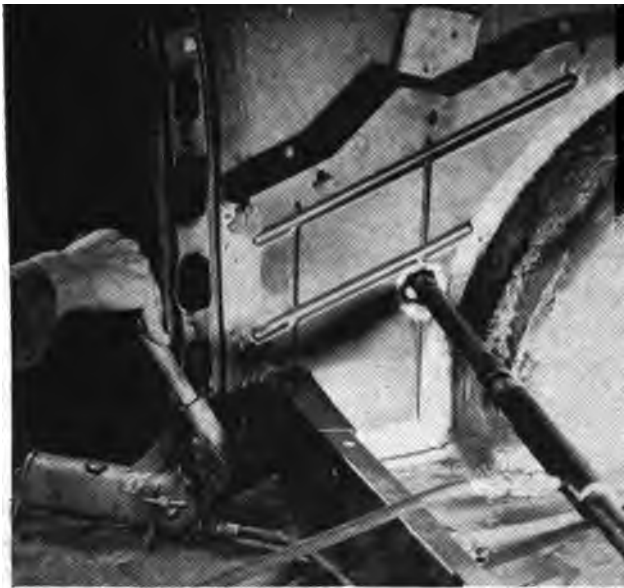
Equipment and procedures shown here
save straightening time on compact car

7 Sheet-metal screws are installed to align and pull the fender into position prior to welding



8 Rear of fender is first secured with clamps and sheet-metal screws and then welded into place





3 Hole cut in inner panel lets jack bear against block to aid straightening of wheelhouse panel



4 As hydraulic jack exerts outward force, hammer and dolly are used to level package shelf

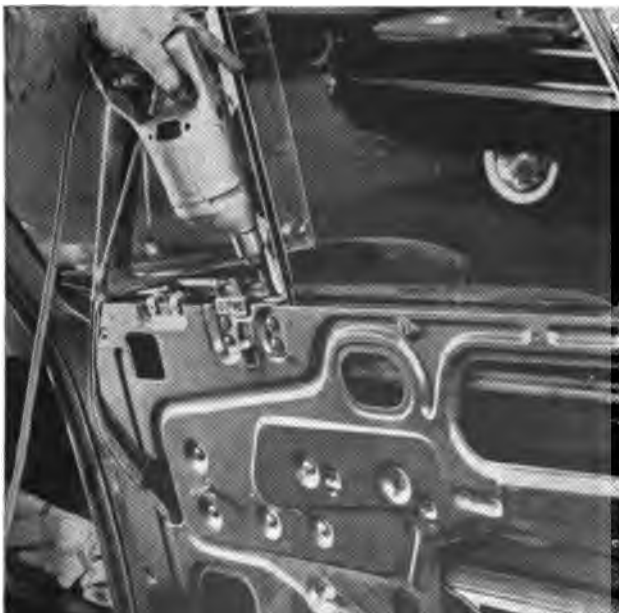


5 Jack is used to maintain alignment of body pillar while welds to inner panel are reinforced

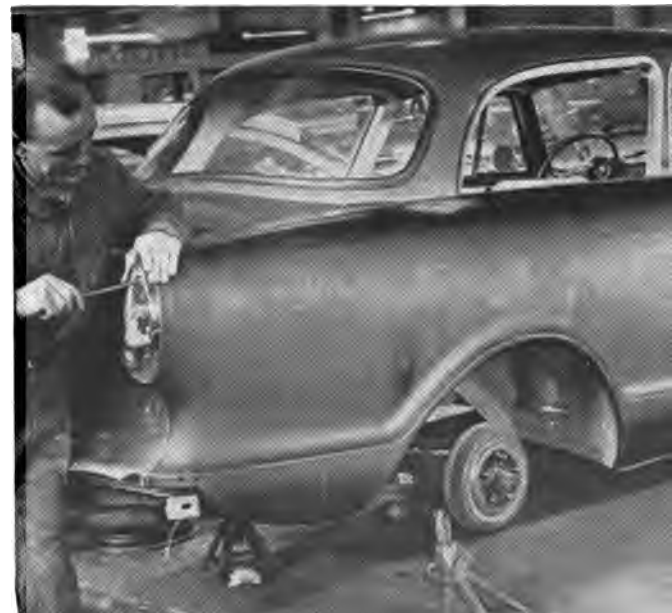


6 Hole cut in base of pillar admits pick so the crease in rocker panel can be straightened

9 Before parts are installed, new door is painted. Here, holes are drilled to secure the channel



10 With metal work completed, taillight parts are installed as final assembly operation begins



Offer Quality Front-End

A shop that can make good on its promise to cure causes of poor handling and excessive tire wear will face no customer shortage this time of year



If a dial indicator is not available, lateral or radial runout can be checked with a pointer



In finger check, if there is movement between hub and washer, bearings may be loose or worn

With a summer of long, hard, high-speed driving behind him, the average car owner is ripe for some quality work on the front end and steering. Sometimes the owner is fully aware of the need and will come in and ask to have the work done. Other times, he has grown accustomed in the gradual change in the way his car handles and is not bothered by it.

A shop can do the motorist—and itself—a favor by pointing out the need if the car owner does not already realize it and then doing the thorough kind of job that spells dependable handling under the tougher driving conditions ahead.

Customer complaints take many shapes. The shop destined to make the most of the opportunity is the one that can come up with the right answer.

Shimmy is a leading complaint but by no means the only one. There are wheel tramp and tire thump and excessive or unusual tire wear, hard steering, excessive play in the steering linkage and, finally bad shocks. All can be caused by hard usage and neglect or both.

Of these faults, shimmy is probably most difficult to tie down to a specific cause, since it may in many cases be due to a combination of factors rather than to one direct cause. While dynamically out-of-balance



Positioning nut lock on Chrysler Corp. bearing adjustment nut. End play must be 0 to .003 in.

Service

wheels and tires are the most common contributing factor to high-speed shimmy in the 35 to 60 mph range, an unbalanced wheel alone may not be the sole cause. A combination of worn steering linkage points, loose or worn wheel bearings or loose steering gear adjustments will make an out-of-balance shimmy even more pronounced. Thus, when a set of wheels is balanced, the parts should be checked before releasing the car to the owner, particularly if the balance job was sold on the argument it would cure a high-speed shimmy.

A high-speed tramp, or wheel hop, is usually caused by statically unbalanced wheels in conjunction with weak shock absorbers or coil springs, or loose shock or control-arm mountings. In severe cases, this is indicated by cupping or depressions at one or more points around the tire tread. Moreover, the use of oversize tires has been found to cause tramp in some cases because of the effect of the larger tires' added weight on shock absorbers calibrated for use with smaller tires.

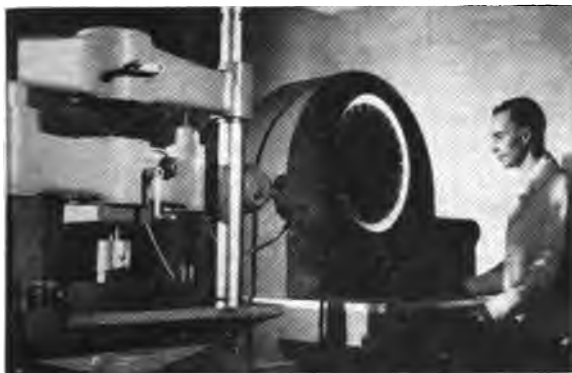
Before any balancing job is performed, either on or



A 1961 Buick idler arm bracket is positioned. Lower bolt must be 3 in. from top of idler arm

off the car, the inside of the wheel disk should be wiped clean of mud or grease accumulation with a wire brush. On cars equipped with brake drums having radial cooling fins, [CONTINUED ON PAGE 164]

As Engineers See It



Good Design Curbs Corrosion

Good design is the best way to keep corrosion from getting a start in a modern truck, according to C. O. Durbin, assistant managing engineer, Electro Chemistry and Corrosion Dept., Chrysler Corp. The same principles of corrosion prevention can also be applied to passenger cars. Durbin described several current problems and their solutions at the SAE National Transportation Meeting.

During the last several years, the most serious corrosion problem encountered in trucks involved electrical components. Wires and connectors for tail- and

direction-signal lamps were mounted on the top of the lower frame rail flanges. Wheel splash soon coated the connectors with dirt and de-icing salts. When moisture and salt leaked into the connectors, current was conducted into the frame.

In the case of a battery with a negative ground, terminals are severely corroded. With a positive ground, corrosion occurs at the frame. Because of the large area of the frame, the rate of corrosion is slow. However, current leakage can cause discharged batteries.

Three solutions were considered. A coating of insulated paint on the frame was ruled out because of high cost. Sealed connectors were not believed to be 100 per cent effective. Wires and connectors were finally located on the lower side of the frame rail's top flange.

To prevent corrosion of the body, the designer should avoid ledges or horizontal flanges below floor level, Durbin said. When flanges are required, they should face away from the nearest wheel. Box sections and enclosed channels below the floor accumulate dirt and moisture. It is hard to apply protective coatings in these areas, and they are virtually impossible to inspect. When lapped joints are used in the underbody, the opening of the joint should not be located where it will pick up wheel splash.



Laying the parts bills on Adelaide's desk, Dan said, "If Cap can win an argument like that, maybe I better not start one"

Get Service Costs Down

One way to keep from losing a dollar-conscious customer, says Cap Moran, is to consider rebuilt parts

Grasping a handful of bills for factory parts, Adelaide Hunt, secretary-bookkeeper of Moran Motors, Inc., glided out into the shop and went straight to the glassed-in cage of Dan Jenkins, the service manager.

"That wasn't the quitting whistle I heard?" she asked.

"No ma'am," said Dan, with a backward toss of his head in the direction of the shop mechanics, "that was the boys givin' you a vote of confidence."

"The things you don't read in the natural history books!" said Adelaide. "Not a word about wolves being able to whistle."

"If it annoys you," said Dan, "I'll make 'em write 'I must not whistle' 50 times after we go off tonight."

"You'll do nothing of the kind. With that kind of encouragement, I don't have to worry so much about what I see in the mirror." She laid the bills on Dan's desk. "Would you mind checking these? I have to write a check today."

"I'll try. But this 's been a rugged day."

"Mr. Butterworth bothering you?"

Dan scratched his red crew cut. "No, not Lou," said Dan. "He don't bother me no more. He beats his

gums a lot and makes cracks that kind of get under your skin sometimes, but I'm used to him."

"Anybody else giving you a bad time? If there is, all you have to do is tell me and I'll give them a working over."

"I know you would, but I'm not sore at anybody here. We're a pretty good family—a lot better than some families I can think of. You ought to hear me and that brother-in-law of mine goin' at it sometimes."

"Then exactly what is your trouble?" asked Adelaide.

"Customers."

"We can't get along without *them*."

"No," said Dan, "but we could sure get along without all their griping about prices. It's gettin' worse, too. They don't think nothing of goin' in hock for three years for a car they can't begin to afford, but ask 'em a fair price for fixin' it and they're ready to scalp you."

"You mean they don't come down with an attack of thrift," said Adelaide, "until after they've bought a new car."

"That's what I mean. If I was runnin' this country—which I'm glad to say I ain't—I'd make it a crime for anybody to buy anything they couldn't afford to have fixed." Dan shoved the bills into a drawer.

"Now don't forget those bills," Adelaide admonished him.

"I won't," said Dan. "I'll [CONTINUED ON PAGE 177

GOA Shakes Up Officers

Millikin new president as "escalator" is discarded . . . Member services asked

Resolution adopted at the sixth annual convention which ended last month at St. Paul, brings the consequent action, members of the Independent Garage Owners of America can look forward to getting more tangible help from the national association in the past. Since the inception of the association in 1955, emphasis has been placed upon helping members.

Future of the member services to be developed and the suggested program was left to the board of directors.

For the first time at an IGOA convention, the association broke out on a design problem when it passed a resolution calling upon automobile manufacturers to abandon the use of tempered glass. The case against tempered glass was summed up in a later address by J. Schmidt, president of the National Automobile Glass Dealers Assn.

Selection of officers created more of a stir than normal when the nominating committee proposed not more than two candidates for each of four offices. The result on which officers advanced for the last four years was abandoned after George Millikin, Youngstown, Ohio, moved up from first vice president to president for 1961-62.

(Josh) Wilder, Nashville, the second vice president, was thrown into competition with Art Fox, Rapid Rapids, Ia., for first vice president. Fox, president of the now defunct National Automobile Maintenance Assn. and had served as secretary-treasurer of IGOA for one year, won the contest for the first vice presidency.

George A. Millinger, St. Louis, the third vice president, was opposed by William McNaughton, St. Paul, for the second vice presidency, but the latter helped defeat himself when he failed to cast Minnesota's votes for himself.


John Breneman, Willow St., Pa., a long-time board member, was elected third vice president over W. R. Thompson, Miami.

Bryan Davis, Raleigh, N. C., was elected to the place vacated by Fox as secretary-treasurer.

Asheville, N. C., was selected as the scene of next year's convention. Jackson, [CONTINUED ON PAGE 153]

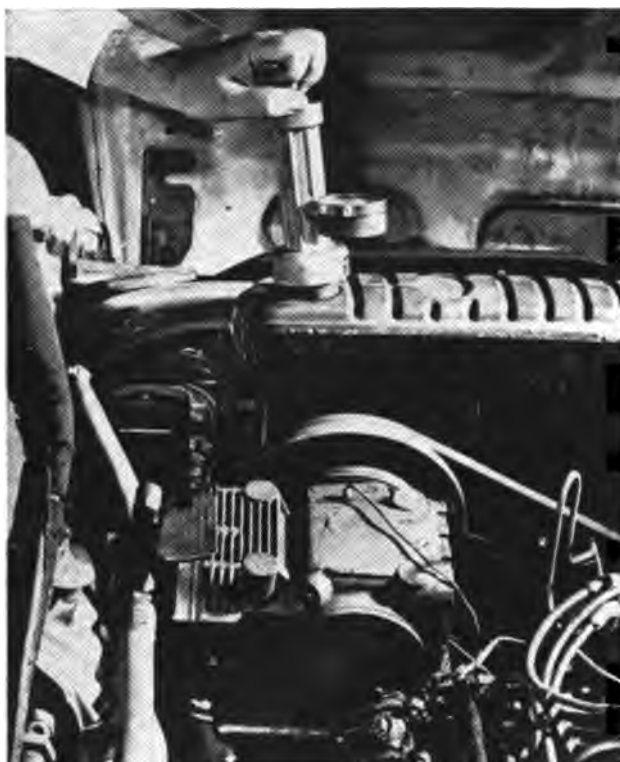


PRESIDENT
George Millikin,
Youngstown, Ohio

VICE PRESIDENTS			
FIRST	SECOND	THIRD	SECRETARY-TREASURER
			
Art Fox Rapid Rapids, Ia.	George Millinger St. Louis	John Breneman Willow St., Pa.	Bryan Davis Raleigh, N. C.

Oil Plus Coolant Equals

These helpful hints tell how to trace a cooling system leak and how to clean up the mess to prevent a recurrence of damage



Cooling system is pressurized to find internal coolant leaks. This is done after crankcase has been drained, rocker covers and plugs removed

Experienced servicemen do not have to be told the importance of detecting—and correcting—leaks of water or antifreeze into the engine lubrication system. With so many car owners driving the year round with antifreeze in their radiators, damage may occur in summer as well as winter.

Cooling system leaks, resulting in rapid contamination of the lubricant, cause sludge, sticking hydraulic valve lifters and corrosion of engine parts.

In extreme cases, sludge may block oil passages. Gummy deposits formed by the oxidation of ethylene glycol can cause engine seizure. An automatic transmission may be badly damaged by coolant entering the fluid through a leaking oil cooler.

Most repairmen are familiar with the telltale signs of internal coolant leakage. Although there is no visible discharge, the radiator needs water frequently.

Fumes from the crankcase ventilating system become more noticeable. The oil on the dipstick frequently has a frothy, yellowish appearance. Black, gritty deposits appear on the lower part of the stick, while the upper portion may show signs of rust.

Once you have determined that coolant is getting into the oil, the next step is to discover where it is coming from. First drain the crankcase and leave the drain plug out. Remove all spark plugs. Take off the rocker-arm covers of an overhead valve engine or the valve chamber cover of an L-head powerplant. Remove the intake manifold and valve lifter chamber cover of a V-8, if you can do so without disturbing any cooling system connections.

Add water to the radiator until it reaches the proper level in the top tank. Install a cooling-system pressure tester in the radiator filler neck. Pressurize the system to the maximum rating of the radiator cap.

After the system has been pressurized for 30 minutes or more, examine the tops of the cylinder heads and the inside of the valve-lifter chamber to see if any coolant is escaping. Look for water or antifreeze solution dripping from the crankcase drain. Turn the engine over several times with the starter while watching for water shooting from the spark-plug ports.

The latter condition is the easiest to spot and cor-



After cylinder deposits have been loosened, solvent is applied to valve stems. Engine is then run with mixture of solvent and oil in crankcase

Trouble

rect. A faulty head gasket is the most likely cause but don't overlook the possibility of a cracked head. If coolant drips from the crankcase, pull the oil pan to find the leak. The techniques of repairing cracked blocks and heads have been substantially improved in the past few years, so check on the availability of such service in your area before discarding the damaged part.

Once you have found and corrected the leak, it is important to determine whether the oil contamination is due to water or antifreeze. Certain solvents are specifically recommended for the removal of glycol-based deposits.

Test for Glycol

Some oil company field engineers have been supplied with kits enabling them to make chemical tests for the presence of glycol in a sample of engine oil. With some types of oil, correct interpretation of the chemical reaction requires considerable experience. Temperature of the solutions must be kept within the recommended range. The chemicals deteriorate with age, so it is necessary to replace them at intervals indicated by dates on the bottles. For these reasons, use of chemical detection kits has been confined to trained personnel.

If glycol gets into the lubrication system, some of its constituents oxidize at high temperature, forming black, gummy deposits. In severe cases, these sticky substances cause seizure of heavily loaded parts operating with close clearances. Piston pins which are pressed into the rod may seize in the pistons, an oil pump shaft may stick or a camshaft freeze.

Seizures due to glycol contamination usually occur



After wetting finger with water, rub it against deposit on rocker arms or push rods. If coating loosens and dissolves, contamination is glycol



Disconnecting transmission oil cooler lines. If oil and water run out of connection when radiator is pressurized, cooler must be replaced

at low temperatures. The engine may run normally as long as it is hot but, as soon as it has cooled down, the starter is unable to turn it over. It can sometimes be started by circulating hot water through the cooling system.

If the sticky deposits on rocker arms, push rods or the top deck of the cylinder head are easily loosened by water but are not affected by kerosene, they contain glycol.

The most effective method of removing glycol-based deposits is to tear down the engine completely and wash all affected parts in hot water and soap or detergent. Be sure the cause of leakage has been corrected before reassembling the engine.

Cleans Lube System

In many cases, contaminants can be removed without taking the engine apart by cleaning the lubrication system with a prepared solution containing suitable solvent.

If the engine will run, bring it up to normal operating temperature, then immediately drain the crankcase. Remove the oil-filter cartridge, clean out the case and install a new filter. Fill the crankcase to the proper level with a mixture of solvent and SAE 10 engine oil.

With the car outdoors, run the engine at a fast idle for 30 minutes to an hour. Check the rocker arms to be sure they are receiving proper lubrication. Stop the engine and drain the solution from the crankcase. Remove the filter cartridge and swab out the case. Reinstall the same cartridge [CONTINUED ON PAGE 150]



CRASH PROGRAMS By Graham Hunter



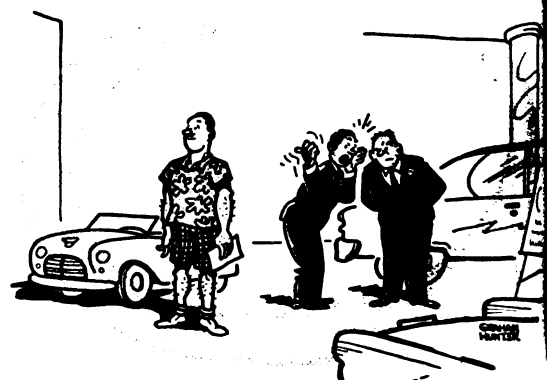
"Darn it! That's the *SECOND* one that got away!"



"WHAT NEXT! The Country Club wants an engine fixed on a motorized golf cart—and will we please bring along a couple dozen more golf balls!"

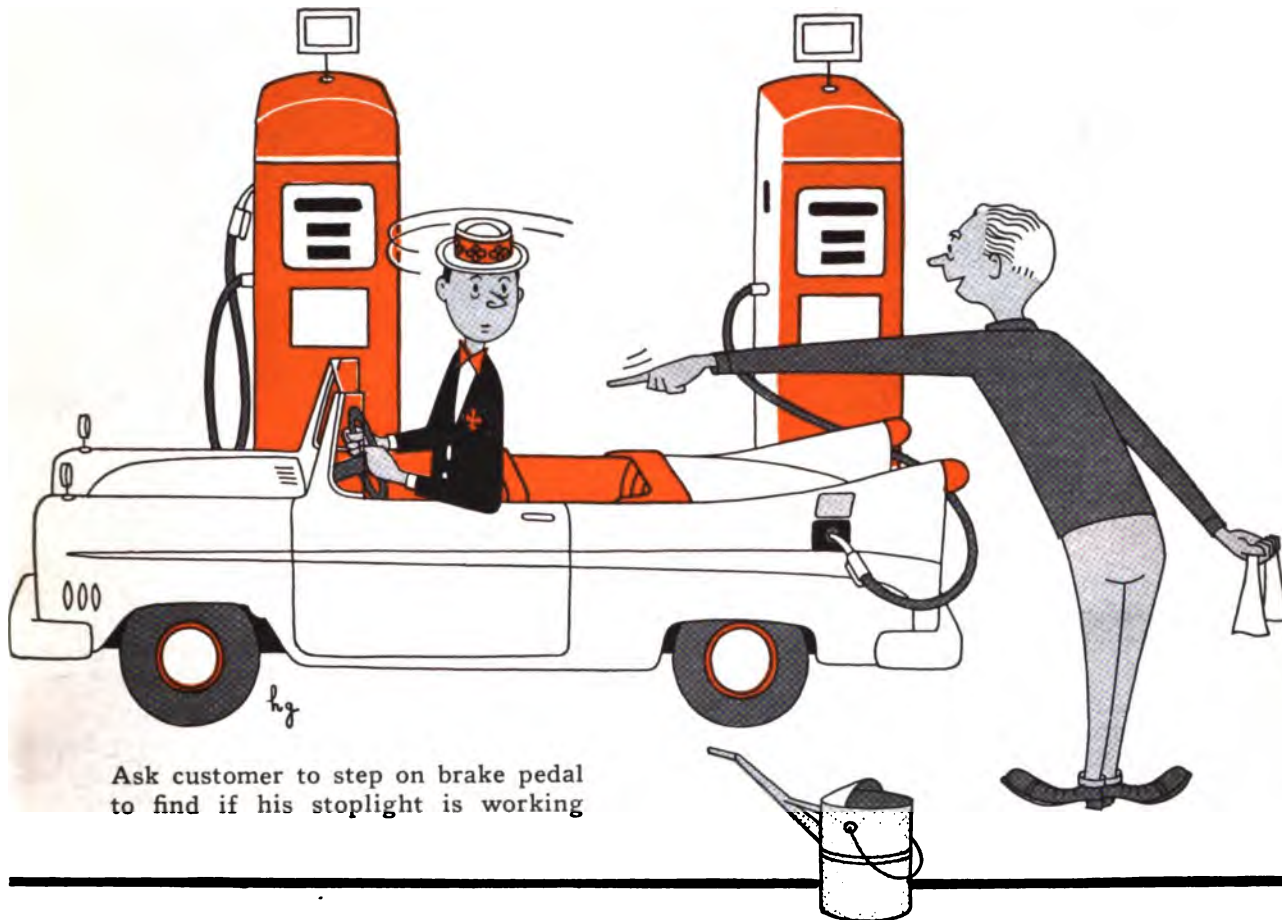


"Mind if we browse?"



"Joe's a stickler for the correct sales atmosphere. He sells sport cars!"

SPOT A SALE IN ONE SECOND



In less time than it takes to read this, any repairshop can uncover prime prospects for new stoplight switches and bulbs

It is a rule of thumb in the automotive service business that if you can spot a need for repairs or parts, the battle is half won. But what frustrates most repairshop operators is the knowledge that cars roll in and out of their shops each day and countless car needs—and profits—escape their employes.

No shop can be too busy to uncover a sales opportunity, particularly in those instances

where only a few seconds are required to dig for the need.

A case in point is this simple but effective sales tactic used by an Illinois repairman. When customers pull up to one of his gas pumps he asks them to step on their brake pedal. Lo and behold, he reports, some four out of ten stoplights don't work!

The result? A steady and profitable volume in sales of bulbs and stoplight switches. The nice thing about it all, this is a purchase motorists won't put off. What's more, customers appreciate the repairman's alertness in bringing the need to their attention.

CURES FOR STUBBORN

These hints will help you trace the source of trouble and then apply the right remedy



Oil return hole is cleared of sludge with rod to prevent oil flooding at valve-cover gasket



Flat washer under bolt load spreader on Lincoln valve cover gives a better seal at cover gasket

Nothing frightens the conscientious automobile owner as much as an oil leak. If his oil pressure falls, if oil consumption shoots up, if he happens to notice fresh oil on the garage floor, he hightails it to his favorite repairshop. The lucky repairman—or unlucky, depending on how you look at it—had better be prepared to find the leak and fix it without any ifs or buts or false starts.

That is not the easiest assignment in the world. Plugging the leak is simple enough, once it is found, but its detection takes a little foreknowledge.

Just because you find oil under the rear area of the engine, you cannot jump to the conclusion that the leak is in the rear main bearings or rear pan gasket. Oil escaping from the fuel pump mounting, front or side pan gasket or other points up front can be swept back along the crankcase by the air stream. The air can carry the oil to rear of the engine, from which it will drip when the car is standing.

Must Determine Source

On cars equipped with automatic transmission, engine leaks around the rear main bearing and camshaft core plug areas present an added problem. It is necessary to determine if the oil is leaking from the engine or from a transmission front seal or converter.

A simple, timesaving method of pinpointing the exact leak location is to add to the crankcase approximately two teaspoonfuls of powdered aniline red dye mixed with 1½ pt. of engine oil. After dirt and oil

accumulations have been removed, engine and transmission areas can be inspected with the car on a hoist and the engine running. If the fresh seepage bears the dye coloring, engine oil is leaking. Uncolored oil indicates the transmission is at fault.

In the event oil leakage does not appear during the inspection on the hoist, park the car for a time over clean paper or cardboard. Check later for clear or colored stains on the paper. The oil-soluble aniline dye is particularly helpful in cases where an engine is leaking at two or more points, or where an oil-washed area under two adjacent gaskets, such as the front pan gasket and front engine plate gasket on Chevrolet 6 cyl. engines, makes diagnosis more difficult. The dye need not be drained from the crankcase in the event leakage is not from the engine.

An alternate means of locating leaks is by the "black light" method, in which a portable ultraviolet lamp is used. A fluorescent compound is added to the engine oil, providing a luminous pattern at the seepage point under the light.

Where a number of leaks are found at various gaskets and seals of an engine, the cause may be due to a build-up of pressure inside the crankcase. This results from clogged or pinched crankcase breather exhaust, other restrictions in the crankcase vent system or excessive amounts of air entering the system.

On 1961 Mercury 390 cu. in. engines with standard road-draft vent systems, use of an oil filler cap designed for positive crankcase ventilation systems will allow entry of too much air, causing pressure build-

OIL LEAKS

By **Thomas V. Glover**

Service Editor of MOTOR



Hammer or round tool may be used to roll wick seal into groove of Pontiac main-bearing cap



Slinger is installed on a Rambler 6 engine to eliminate oil leakage at the timing case seal

up and possible leaks. The correct cap for the road-draft installation has one small round hole on each side of the spring clip inside the cap. On the other hand, the positive ventilation cap has two larger rectangular openings, formed by two tangs bent upward. This cap can be modified for use with a road-draft system by bending one tang completely closed over the opening and the other tang approximately two-thirds closed.

Installs Oil Slinger

Oil leakage at the timing-cover oil seal on some Rambler 6 cyl. engines may be corrected by installing a concave oil slinger behind the seal, if the slinger is found to be missing, in addition to replacing the seal. The slinger is a loose fit on the crankshaft and is centered in position when the crankshaft damper is installed.

On the Corvair engine, because of its opposed-cylinder design, there are additional points of possible leakage besides the front and rear crankshaft seals, oil pan, valve and push-rod cover gaskets. Oil seepage at the rear of the engine shrouds may be due to leaks at the engine rear housing gasket, oil cooler adapter seals or the gasket between the oil filter adapter and the rear housing.

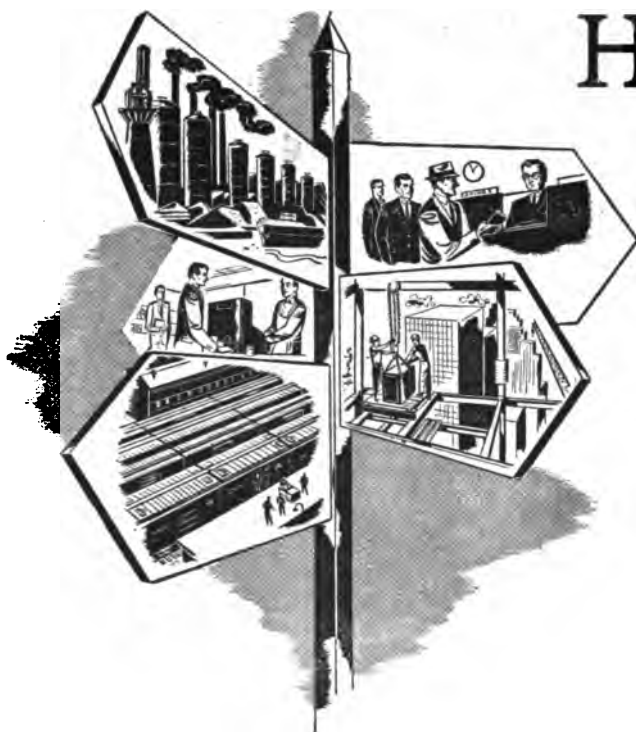
Each of the Corvair push-rod drain tubes, which individually enclose the push rods, has an O ring seal at the inner and outer end. Replacement of either O ring on any of the tubes can be done with the engine in the car by removing the lower side shroud



Push rod drain tube on a Corvair is inserted through head. Then O-ring seal is installed

on either side and the muffler and exhaust pipe from the right side. After the valve rocker cover has been removed, the rocker arms, ball studs, push rod guides and push rods are taken out, and the tubes slipped out of their sockets.

When the inner O ring on a tube is being replaced, the tube should be inserted through the head before the new seal is placed on its end to prevent damaging the seal in the head. After the guides and rocker studs have been in- [CONTINUED ON PAGE 134]



How's Business?

MOTOR'S Monthly Summary

earlier forecasts, will probably top 1,275,000, up 3 per cent from last year.

PRODUCTION. Industrial output, which rose to 110 per cent of the 1957 average in June, is not likely to show any increase this summer. If anything, the index may dip slightly. However, business men and economists expect output to swing up beginning in September and continuing right through the year.

PERSONAL INCOME. For the fourth consecutive month, personal income of the nation's citizens increased, hitting an annual rate of \$416,700,000,000 in June. With industrial output on the upswing, it seems likely that the annual rate will come close to \$425,000,000,000 before the new year begins.

CARLOADINGS. While weekly rail freight loadings continue to run far behind last year's pace, intercity truck tonnage has forged ahead of 1960's levels. Rise in truck tonnage began in June and carried over into July. Despite a bad first half, railroad men predict increased loadings in the last five months of the year will bring freight loadings closer to 1960's volume.

EMPLOYMENT. Although the number of jobholders has increased to 68,706,000, a new high, the jobless count jumped 802,000 to a total of 5,580,000 in mid-June. Labor Dept. foresees little drop in unemployment in the next five months. It predicts that 6 per cent of the work force will be idle at year's end, small improvement from the current rate of 6.8 per cent.

PRICES. The index of wholesale market prices has been edging up, reaching 118.9 per cent of the 1947-49 base last month. The rise has been paced by farm products and processed foods. Immediate outlook is for consumer prices to climb, too.

CREDIT. Interest rates since the start of the year have been relatively steady, but well below the highs of 18 months ago. Consumer and business demands for credit have not been heavy enough to spur a rise in interest rates. In the home mortgage field, lack of demand has resulted in a decline in rates.

RETAIL SALES. All's well with the nation's retail merchants, according to latest figures which show that retail sales in June rose to nearly \$18,300,000,000, 1 per cent above the May level. With rising employment, longer work weeks and increased personal income, it is conceivable that 1961 retail sales will establish an all-time high.

Upswing to Continue

The economy, which had sprinted right in the April-June period, has run into the traditional summer snag. While the forward pace has not stopped entirely, the momentum has dropped from a sprint to a trot.

Government officials and economists are not concerned with the current period but with what lies ahead for the year. The consensus is, the economic upswing will resume next month.

Steel demand, according to one industry leader, is expected to be at least 20 per cent higher in the last half than for the first six months of the year. Brass mill officials entertain similar bullish attitudes.

Gross national product is expected to top the \$520,000,000,000 mark by year's end. Personal income is seen climbing to \$425,000,000,000 at the start of the new year. And construction spending for 1961, seers say, will set an all-time high of \$57,800,000,000, up 4 per cent from 1960.

The one disturbing element will be unemployment. Despite the brisk pace of industrial improvement, the Labor Dept. foresees little drop in the jobless total. It predicts that at least 6 per cent of the nation's work force will be idle at the beginning of 1962. This compares with the current rate of 6.8 per cent.

CONSTRUCTION. In June, construction spending was running at a seasonally adjusted rate of almost \$56,500,000,000, up 1 per cent from the May rate. Commerce Dept. predicts that total construction spending in 1961 will set a new high of \$57,800,000,000. Private housing starts, which have lagged behind



FIVE LAYERS TOUGH

1. Tin flash plate—protects bearings from oxidation and rust
2. Lead-tin overplate—conforms to shaft during break-in
3. Barrier plate—stabilizes overplate
4. Copper-alloy lining—for high load capacity
5. Steel back—gives strong bearing support

put your equipment to work, loads on connecting crankshaft bearings build up to 1,000, 2,000, 4,000 pounds per square inch. Engine bearings must be tough to stand up under these two-ton pressures.

Federal-Mogul developed and built the 5-layer, heavy-duty crankshaft bearing for just this kind of service. It will stand up to loads up to 4,800 psi... triple the load limit of babbitts. Five separate layers give you high

fatigue strength for high horsepower engines plus the good "conformability" that's necessary for new bearings to adjust to the crankshaft during break-in.

The complete Federal-Mogul line also includes overplate aluminum-alloy, straight copper-alloy and babbitt bearings. Each is designed for a particular type of engine and gives maximum service in it. When you need replacement bearings, get Federal-Mogul... and you'll get the best.



FEDERAL-MOGUL ENGINE BEARINGS

FEDERAL-MOGUL SERVICE

DIVISION OF FEDERAL-MOGUL-BOWER BEARINGS, INC. • DETROIT 13, MICHIGAN



NOW . . . WHAT PRICE "BARGAIN" BRAKE LININGS?

When it's too late to make any difference, it's a simple matter to add up the real cost of false "bargains" in brake linings. At the time they are needed most, the so-called "just as good, but lower cost" linings just don't have it. The insignificant amount of money saved on these linings is offset many times over by the shocking damage to the vehicles and by the injuries that drivers and passengers suffer.

The worst part is that cheap brake linings look much like new car linings. The vast difference in materials, engineering, and manufacture is apparent only to the trained eye. Thus, the car owner,

in his efforts to save a little money, is easily sold on substitute linings. The dealer who sells this kind of lining is doing his customer and his own reputation a disservice.

The best way to avert accidents caused by cheap, low-quality brake linings is to sell and install only reputable brake lining brands like Bendix. Products of intensive research and engineering, they are carefully made from quality materials by expert craftsmen. Bendix and other leading manufacturers who market their products year-in and year-out have too much at stake to compromise their quality in any

way. We will be in business long after the "bargain" brake lining manufacturers have vanished.

When you are considering the choice of brake linings, it's well to remember this: automobile and truck manufacturers go to great lengths to protect their customers. With their vast purchasing power, as well as their continuing research and testing programs, they make sure that the brake linings they install are the *best*. It's a matter of record that Bendix® brake linings are installed on more new vehicles than any other brand.

"NEW CAR SAFETY"—BUILT-IN ADVANTAGE OF BENBIX BRAKE LININGS

You can be confident you are providing the best in quality when you sell and install Bendix brake linings. In replacement applications, they provide the same safety, efficiency and customer satisfaction that make Bendix original equipment linings the overwhelming choice of vehicle manufacturers. A few of the reasons:

LABORATORY AND FIELD-TESTING. Bendix linings are tested exhaustively, both in the research laboratory and in the field—under every kind of driving condition. Bendix engages in more practical research than does any other brake manufacturer in the world.

QUALITY OF MATERIALS. To match materials with the highest of engineering specifications, Bendix uses only the best of raw ingredients. Bendix makes its own resins—one of the few manufacturers to do so.

QUALITY-CONTROLLED MANUFACTURE. Every step involved in the manufacture of Bendix brake linings is supervised by careful quality control. Modern, automated equipment includes automatic drilling machines and conveyORIZED ovens. These reduce production costs and cut the possibility of human error.



MODERN BRAKE LINING PLANT—An idea of the kind of equipment used at Bendix Marshall-Eclipse can be gained from this photo. ConveyORIZED ovens cure high-temperature-resistant friction materials used in Bendix quality linings.



BE SURE TO SPECIFY BENDIX LININGS. EDF, the top quality lining, or Bendix Friction King, the long-wearing economy lining. Both are available in bonded shoes and drilled sets. See your jobber, or write for name of nearest distributor.

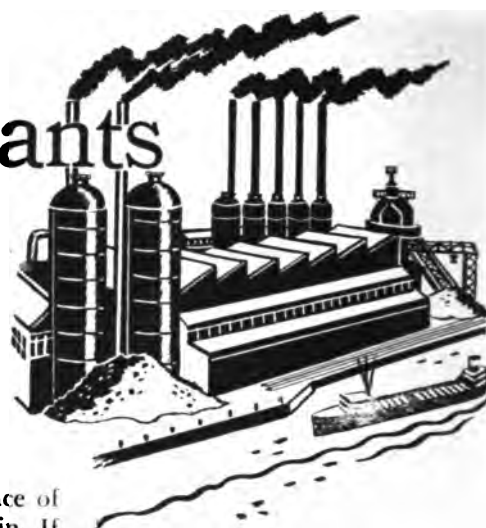
See the new sound-color film "Security Clearance" at the Bendix Brake Clinic in your area. Call your distributor for clinic dates.

Marshall-Eclipse Division
TROY, NEW YORK



Factory Service Slants

Detroit experts keep you up-to-date on latest repair changes and procedures



CHRYSLER

Cures Brake Shoe Drag

A new brake-shoe return spring, part No. 2266881, is available for use on 1959-61 Chrysler models MC-1, PC-1, RC-1 and RC-2 with 11 in. diameter three platform brakes. The new spring provides a 15 per cent greater spring load to reduce the possibility of shoe drag.

The heavier springs may be used on front or rear wheel brakes, or on both front and rear. They must be installed in pairs on the right and left sides of the car. Shoe contact areas on the platforms should be lubricated with a thin film of the proper lubricant.

PLYMOUTH VALIANT

Correct Fluid Level

A "no-drive" condition in a TorqueFlite 6 transmission, generally occurring after making the first stop when the car is cold, can be caused by an incorrect fluid level in the transmission. A low level causes a cavitation at the pump strainer, and a loss of front pump prime.

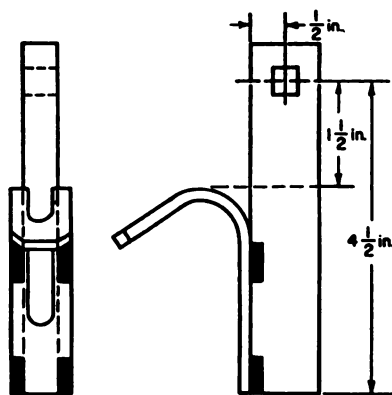
The correct fluid level on a 1960 Plymouth or Valiant is to the "Full" mark to $\frac{5}{8}$ in. above when hot. On 1961 models, the fluid should be at the "Add 1 Pint" mark when cold, or between this mark and the "Full" mark when hot.

If the condition still exists with the proper oil level, check push-button cable adjustment. Next, if necessary, remove the transmission and disassemble the front pump. The specified clearance for the

front pump rotors and the face of the housing is .001 to .0025 in. If pump clearance is normal, inspect the rear clutch and seals.

CORVAIR

Make Torque Tool



Shaded areas show where hook is welded or brazed to shank

New belt on a Corvair engine blower should be adjusted to a 70 lb. strand tension. A belt in use for more than 1,000 miles should be adjusted to 50 lb. strand tension. Tension can be checked either with a tension gauge or with an easily made torque tool.

Shank of the tool is made from steel bar approximately $\frac{1}{4}$ in. thick, $\frac{3}{4}$ in. wide, and 5 in. long. A square hole to take a torque wrench is made by drilling a $\frac{3}{8}$ or $\frac{1}{2}$ in. hole and filing it square. The hook part of the tool is 5 in. long and is made from the slotted end of a generator brace. With the tool assembled, form the hook to fit the top of the idler pulley bracket. The reinforcing rib of the casting must

be in the slot in the hook, with the shank toward the rear.

To adjust with the tool, loosen the idler pulley to eliminate drag between the pulley bracket and engine mounting. Pull the torque wrench toward the rear to apply 20 lb.-ft. for a new belt, or 15 lb.-ft. for a used belt. Maintain the torque and tighten the pulley. Do not even momentarily exceed the specified torque.

RAMBLER

Tests Booster Pump

The vacuum booster pump on 1960-61 10, 20 and 80 series cars uses a metal piston with an "O" ring seal. This type pump requires a metered amount of oil for lubrication. The presence of oil on both sides of the piston and in the connecting hose is therefore normal and does not necessarily indicate that the pump is defective.

To test the booster pump, disconnect the manifold and wiper lines at the pump. Connect a vacuum gauge to the wiper side of the pump. Run the engine at 800 to 1,000 rpm. A vacuum reading of 14 to 19 in. is normal and indicates that the piston ring and valves in the pump are in good condition.

A vacuum reading higher than 19 in. or lower than 14 in. indicates a defective pump which could cause excessive oil consumption or poor wiper operation.

[CONTINUED ON PAGE 66]



THE CASE FOR QUALITY

Refined from the choicest 100% Pennsylvania Crude and sold at the "regular oil" price, Kendall Dual Action is the motor oil that builds customer good will and repeat business for all your products and services. It is certified to exceed auto manufacturers' test sequence for service MS.

Stocked by the case, it gives greater inventory control, brand identification and the added protection of refinery-sealed shipments.

Ask your Kendall distributor about Dual Action—now available in 6 4-qt. cases as well as 24 1-qt. cases.



KENDALL REFINING COMPANY, BRADFORD, PENNA.
Lubrication Specialists since 1881

What Caused This?

The owner of the Mercury complained of a severe slippage in his automatic transmission when in reverse. After preliminary checks had been made, the transmission was removed and disassembled. The cracks shown here in the reverse servo were then discovered. Do you know what caused this? You'll find the answer on page 174.



Factory Service Slants

continued from page 64

DODGE

Quiets Oil Pump Noise

A noise from the oil-pump relief valve on a 1959 or 1960 car equipped with 361 or 383 cu. in. engine can be eliminated by installing a new type relief valve spring and damper assembly, part No. 2202845. The noise can be identified as a growling, grinding or buzzing sound. It usually causes a vibration which can be felt by touching the oil pan.

FORD

Wheel Alignment Specs

Current front wheel alignment specifications for 1961 Econoline vans, buses and pickup models are: Caster $3\frac{1}{4}$ deg., plus or minus $\frac{3}{4}$ deg. Camber $\frac{3}{8}$ deg., plus or minus $\frac{1}{4}$ deg. Toe-in $\frac{3}{32}$ in., plus or minus $\frac{1}{32}$ in. Kingpin inclination $7\frac{1}{2}$ deg.

OLDSMOBILE

Adjust Wheel Bearings

To adjust the roller-type bearings on F-85 front wheels, torque the adjusting nut 10 to 15 lb.-ft. while revolving the wheel. Then back off one-sixth to one-fourth turn and install the cotter pin. This should remove preload on the bearings since a slight amount of end

play is permissible with roller bearings.

Be sure the threads on the spindle and nut are clean and do not bind. Chips or foreign material on the threads will give an incorrect torque reading and can result in incorrectly adjusted bearings.

PONTIAC

Lubricates Starting Motor

If there is a chatter on disengagement of the starting motor, or added friction during cranking, the trouble can be due to dry commutator shaft bearings. To eliminate a groan or chatter when the starter disengages, lubricate the armature shaft bearings at the commutator end with a suitable lubricant.

When the starting motor cranks slowly and no electrical malfunction is evident, the trouble may be due to high friction caused by dry bearings. This can be corrected by applying the recommended lubricant to the commutator shaft bearings.

STUDEBAKER

Checks Power Steering

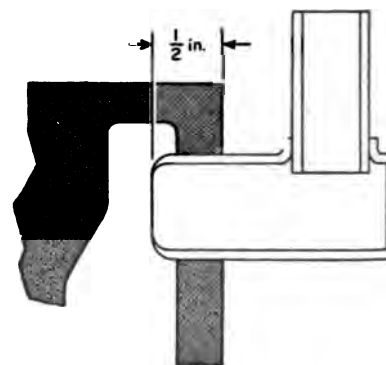
An incorrectly adjusted control-valve spool nut on a power steering unit can be checked by looking for the following symptoms: No noticeable power assist in highway driving, manual assist required to return the wheels to a straight-ahead

position after cornering at slow speeds, a noticeable break-through in power assist when turning the wheels with the car stopped. To adjust the control-valve spool nut, tighten it until it bottoms on the centering spring spacer. Then back off one-sixth to one-quarter turn.

Loss of assist or recovery in one direction, or wander, may be caused by the dust shield on the pitman arm ball stud catching on the sleeve on the housing. The control valve and housing-sleeve assembly should move slightly over the pitman arm ball stud in both directions, without exposing the opening in the sleeve assembly, when the wheels are moved sharply. If there is interference replace the dust seal and shield.

COMET

Servises Ventilator



Adapter for positive type crankcase ventilator must be inserted only $\frac{1}{2}$ in. into cylinder block

The positive-type crankcase ventilator must be serviced at 8,000 mile intervals. This requires the removal and cleaning of the ventilator parts, including the ventilation outlet adapter which is secured to the cylinder block by an interference fit. Tap the adapter lightly from side to side while exerting a pull to remove it.

Before installing the adapter, mark the pipe at a point $\frac{1}{2}$ in. from the end to be inserted in the cylinder block. Then start the adapter into the block, properly positioned with respect to the ventilation tube and hose connections.

[CONTINUED ON PAGE 68]



1951
1952
1953
1954
1955
1956
1957
1958
1959
1960
1961

NOW ANY FORD AUTOMATIC TRANSMISSION CAN BE COMPLETELY SERVICED BY MOTORCRAFT PARTS & KITS

Now a full line of Motorcraft factory-approved automatic transmission repair kits completely service the 10 million Ford-built automatic transmissions on the road today. Individual parts are available, too!

With Motorcraft Parts and Kits, you're assured of better cataloging than ever before, plus certified conformity to original equipment specifications. And every improvement is instantly incorporated. For example: A longer-lived front oil pump seal recently superseded

an older type as a replacement part for all three automatic transmissions ever built by Ford. As the change-over was approved . . . Motorcraft Automatic Transmission Repair Kits from 1951 to 1961 included the new seal. Even if Ford should make five improvements in one week, they would immediately be included in Motorcraft Kits.

Quality design and engineering like this are typical of all the parts in the fast-moving Motorcraft line.



QUALITY-BUILT TO PERFORM BETTER....LONGER

MOTOR, August 1961

continued from page 66

Tap it inward only to the $\frac{1}{2}$ in. mark. If the adapter is inserted too far and contacts the wall on the casting, it will be restricted and the ventilator will not function properly.

BUICK

Ends Horn Contact Squeak

If a squeak occurs from the horn contact on a 1961 Buick, it can be eliminated quickly without removing the steering wheel.

Take off the center emblem assembly from the steering wheel. On the Special Series with a standard steering wheel, remove the horn button cap and switch assembly. To apply the lubricant, wrap electrical tape around a short length of $\frac{1}{8}$ in. diameter rod to form a cup, or use a small camel hair brush. Now apply a light lubricant through one or both of the threaded puller holes in the hub of the steering wheel. Rotate the wheel while holding the applicator against the horn contact ring.

MERCURY, COMET

New Rear Pump Rotor

A new rear pump rotor for 1959-61 cars with two-speed automatic transmission now enables a service repair to be made without replacing a complete pump assembly. However, if the pump body is scored, the pump assembly should be replaced.

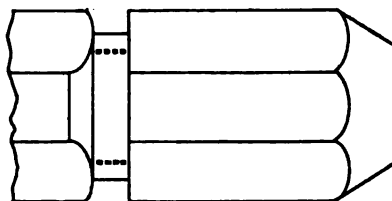
The new rotor, part No. COAP-7A497-A, does not have slipper spring pockets. Shorter slipper springs, part No. COAP-7A499-A, are .54 to .57 in. long and must be installed with the new rotor.

Measure the width of the new rotor and the depth of the pump body bore to make sure there is the proper .001 to .003 in. clearance between the rotor and body. When reassembling the slipper and slipper springs use only five of each, leaving out No. 1 and No. 4 positions.

BODY

VALIANT

Secures Door Handles



Deepen flat in top rear groove for left doors and the bottom front groove for right doors

Remote control handles on the inside of doors on 1960-61 models may loosen slightly. This is due to the groove in the handle shaft not being deep enough for proper engagement of the clip which retains the handle.

To eliminate the looseness, remove the handle and handle spacer. With a hacksaw, increase the depth of the flat in the groove on the shaft .040 to .050 in., or approximately $\frac{3}{64}$ in. For handles on doors on the left side of the car, deepen the flat to the top and rear of the shaft. On right side doors, deepen the flat to the bottom and front on the shaft.

Before reinstalling the handle, inspect the retaining clip in the handle for damage and, if necessary, replace it. Install the handle so that the engaging side of the clip snaps into the deeper groove. Right door handles should point up to approximately the 11 o'clock position and left door handles to 1 o'clock.

CADILLAC

Oils Convertible Zipper

The zipper on the back curtain on convertibles can be kept in good operating condition by lubricating it twice a year. To do this, unfasten the zipper completely around the opening and lower the back curtain into the top compartment well.

Then dampen a cloth with a liquid detergent or fabric cleaner and, with medium pressure, clean

the zipper on the curtain and valance. Continue the cleaning until the rag remains clean. Do not apply cleaner to the vinyl part of the back curtain. Dried sealer, which might interfere with zipper operation, can be scraped off with a knife.

Now apply a light coating of a silicone lubricant to the zipper scoops. Operate the zipper several times through its complete cycle and then wipe off any excess lubricant.

Raise the curtain and return the slide fastener to the closed position.

BUICK

Aids Molding Installation

A new clip, part No. 1350938, simplifies the replacement of the side moldings on the front fenders of 1961 models. The new clip, of the spring wire snap-in type, makes it unnecessary to gain access to the inside of the fender.

When this new clip is used, the production T-bolt clips can be cut off. This will eliminate the need for removing or loosening the fender to remove the nuts from the T-bolt clips.

LINCOLN

Heat Lamp Caution

Care should be taken when using banks of heat lamps since intense heat directed against a windshield can soften the thermoplastic interlayer in the glass. When this happens bubbles will form between the two glass sections and in some instances discoloration may also occur.

To avoid this trouble, an insulator should be placed over the entire windshield to protect the glass when heat lamps are used. A quilted fiberglass pad, approximately 1 in. thick, and with aluminum paint or foil covering the outer surfaces, will insulate the windshield satisfactorily. This will prevent any possible damage.



1525

STOUFFVILLE

ELECTRIC DRILLS



1472



1550



1495

ALBERTSON & CO., INC.

Geneva City, Iowa, U.S.A.

Canadian Warehouse: 379 Comstock Road
Scarborough, Toronto, Ont.

SOLE THROUGH DISTRIBUTORS IN U.S., CANADA AND MEXICO
FIND YOUR NEAREST U.S. DISTRIBUTOR UNDER "TOOLS, ELECTRIC" IN THE YELLOW PAGES.



\$10 for Your Ideas

Have you come across any timesaving short cuts or solutions to tough repair problems? If you have, and the idea is a good one, MOTOR will pay you \$10. If your idea needs an illustration, just enclose a rough sketch in your letter. MOTOR'S artists will do a finished drawing.

When your idea applies to one particular car make, be sure to give the make and model year of the car.

Naturally ideas which have already been used or offered elsewhere cannot be considered.

So grab a pencil and jot down your idea on your shop's letterhead or billhead. Then mail it to "Fix It" Editor, MOTOR, 250 W. 55th St., N. Y. 19, N. Y.

Have Troubles? Readers Tell How To

FIX IT

Saves Gas Cans

Gasoline cans loaned to customers present a problem because the gas will only slowly gurgle out of the can just when the customer is in a hurry. A customer who borrows one of these cans usually punches a hole in the top of it for a vent. This, however, ruins the can because the gas will leak around the top when the can is refilled.

We now drill a hole through the top of each can large enough to install a discarded tubeless-tire valve. Then we attach a wire to the valve and pull it up through the drilled hole. A dust cap installed on the stem makes the can air tight. To pour, simply remove the cap from the stem.

—JEROME F. PATTERSON
Patterson's Atlantic Service
Berwick, Pa.

Guide Bolt Removal

Guide bolts make it easier to install cylinder heads but sometimes full-length bolts can't be removed after the head has been installed. This applies, for instance, when installing a head on a Chevrolet 6 cyl. engine.

In such cases, cut guide bolts

long enough to protrude about $\frac{1}{2}$ in. above the top of the block when they are installed. Slot the tops of the bolts to take a screwdriver. After the head has been installed and a few head bolts started, back the guide bolts out of the threads in the block with a screwdriver. Then lift the guide bolts out of the holes in the head with a magnet.

—RONALD F. WEINERT
Bill's Shell Service
Glenview, Ill.

Speeds Transmission Work

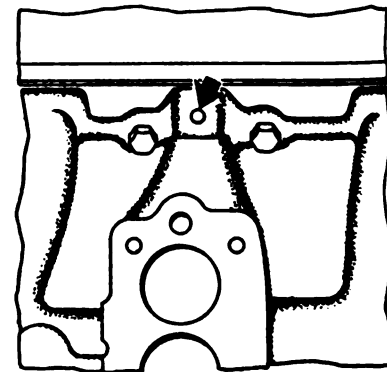
We use a procedure which saves considerable time on removing automatic transmissions on 1957 and later Fords. These cars have a single crossmember which is bolted to the side rails with three bolts on each side. The side rails are hollow and moisture and corrosion cause the two bottom bolts to rust inside the frame member.

Before attempting to remove these bolts, we drill a small hole through the underside of the frame directly below the bolts. The ends of the bolts can then be sprayed with penetrating oil. Then the bolts can easily be removed without risk of breaking

them or distorting the threads in the frame. This greatly aids the removal and installation of the transmission.

—ROBERT FLACK
Widewater Motors
Lafayette, Ind.

Cleans Heat Passage



Hole is drilled and tapped $\frac{3}{4}$ in. from end of heat passage

When the heat passage through the manifold to the carburetor on a Chevrolet V-8 clogs, there's an easy way to clean out the passage without removing the manifold.

Take off the carburetor and center-punch the top of the heat passage at points $\frac{3}{4}$ in. from the edges of the inlet and outlet branches of the passage. Now drill $2\frac{1}{64}$ in. holes and tap to take a $\frac{1}{8}$ in. pipe plug.

To remove the carbon, apply
[CONTINUED ON PAGE 75]

Getting the Business



Fix It

continued from page 72

the flame of an acetylene torch until it starts burning. Then close the acetylene valve, leaving the oxygen flowing, until the passage is clean. Install the pipe plugs and carburetor to complete the job.

—ADOLPH HUBLAR
New Albany Motor Co.
New Albany, Ind.

Safe Pipe Removal

To remove a sheet-metal pipe from a cylinder block, first slip a bolt or a short length of iron pipe inside the sheet-metal pipe. The sheet-metal pipe can then be gripped firmly with a visegrip pliers without danger of collapsing or bending the thin tubing.

Now tap against the visegrip pliers with a hammer to remove the pipe.

—ELI WOOD
Eli Wood Auto Repair Shop
Missoula, Mont.

Easier Powerglide Repair

The rear-pump drive pins on Powerglides occasionally shear and are wedged tight in the output shaft. If the broken pin cannot be removed, a repair can still

be made without removing and disassembling the transmission.

To make the repair, drill a hole through the bottom of the case directly under the drive pin. Weld a $\frac{1}{8}$ in. drill to a 2 in. length of drill rod. Now drill out the broken pin by inserting the drill extension through the hole in the case.

After the repair has been completed, tap the hole in the case for a $\frac{1}{8}$ in. pipe thread and install a $\frac{1}{8}$ in. pipe plug.

—JOSEPH F. POSPISIL
Albachten Motors Inc.
Worthington, Minn.

Improves Oil Supply

We have had a number of Ford 292 cu. in. overhead-valve engines which did not supply enough oil to the rocker arms and shaft. This occurs when the center camshaft bearing becomes worn. As the bearing wears, it forms an indentation, or groove, in the center camshaft journal which cuts the oil supply to the rocker-arm shaft.

To remedy this condition, remove the camshaft and cut the existing groove in the center camshaft journal $\frac{1}{16}$ in. deeper. Blow out the oil ports through the block or force grease under pressure through them to clean out

the ports. Then reassemble the camshaft.

A new set of camshaft bearings will also remedy the condition. However, this requires removing and tearing down the engine. Deepening the groove in the journal is much less expensive and gives an effective correction when the wear is not excessive.

—JAMES H. CEASE
Washington Motor Sales Co., Inc.
West Orange, N. J.

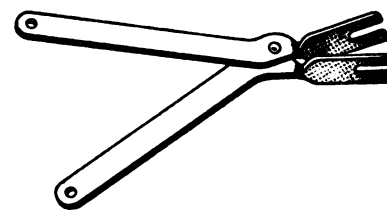
Quiets Camshaft Squeal

A squeal from the front area of a 1961 Ford 352 cu. in. engine can usually be traced to the thrust button on the front of the camshaft. I have removed the radiator, water pump, fuel pump and timing cover, replaced the thrust button which bears against the cover and lubricated it. However, the squeal came back again in a short time.

Now, when I remove a timing-chain cover for this job, I drill a hole in the top of the cover and drive an oil cup into the hole. An oil cup of the type used on generators is ideal for the purpose. Then, if a squeal occurs, the thrust button can easily be lubricated with a long spout oil can.

—EARL HOFFMAN
Manbeck Ford Co.
Pine Grove, Pa.

Emergency Brake Cable



Jaws of pliers press back spring from end of cable

A pair of special pliers for installing the ends of emergency brake cables can easily be made from scrap available around the shop. The pliers push back the spring on the cable to make it easier to install cable on the arm.

The pliers are made from light, flat stock $\frac{1}{2}$ in. wide. Cut two lengths to form the handles. Drill holes and install a pivot. Cut two

[CONTINUED ON PAGE 78]

NEW
"BELL-RINGER"
demonstrator
FREE!



Fix It

continued from page 75

2 in. lengths for jaws and slot one end of each piece with a hacksaw. The slot should be wide enough to slip over the cable. Grind tapers on the slotted ends of the jaws so they will slide into place easily. Then weld the jaws to the handles.

To install a cable, slip the jaws between the spring and the cable end. Then just squeeze the handles to compress the spring, and slip the cable into place on the arm.

—RONALD CAMPBELL
Campbell's Repairing and Welding
Grove City, Pa.

Changes Push-Button Lamps

The lamp for illuminating the push-button control for the automatic transmission on late model Ramblers is hard to replace. Fingers won't do the job because the lamp must be reached through a slot in the dash after the push-button control is reached.

A $\frac{7}{16}$ in. socket attached to a straight handle and extension will reach the lamp. Insert a $2\frac{1}{2}$ in. strip of cellophane tape in the end of the socket. This tape makes it possible to twist and withdraw the lamp without dropping it.

—DICK GERHARD
Dick's Brake and Ignition
Rochester, N.Y.

Frees Stuck Choke

Occasionally a backfire on a Ford or Mercury equipped with a four-barrel carburetor will cause the choke to stick.

To prevent this, drill two $\frac{3}{32}$ in. holes in the front of the carburetor in a line approximately $\frac{1}{16}$ in. below the point which the choke butterfly contacts when it closes. The two holes should be about 2 in. apart. Now install sheet-metal screws in the holes, so the tips of the screws protrude on the inside of the carburetor.

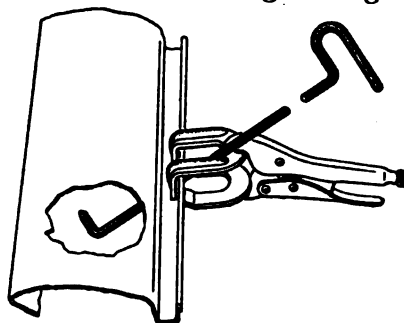
The screw tips prevent the butterfly from going past center when a backfire occurs, which keeps the butterfly from jamming.

—H. L. ACKMAN
Galesburg Lincoln-Mercury Co.
Galesburg, Ill.

BODY TIPS

MOTOR will pay you \$10 to reach usable timesaving short cut from the body man

Aids Panel Straightening



Bar is inserted through opening in jaws of pliers

Straightening the top of a quarter panel section on many late model cars, including Ford and Chevrolet, is a problem. There's not enough room to hammer out the panel and it's hard to get enough leverage for a bar or pick.

To make a fast repair on this area, fasten the jaws of visegrip pliers to the weather-strip retainer on the trunk opening. Now insert a pry bar or pick rod through the opening in the jaws of the visegrip. The visegrip provides an effective fulcrum and the required force can then be applied through the bar or pick to straighten the panel.

—ERIK MYKOWSKY
City Motor Service, Inc.
Chicago, Ill.

Secures Loose Knobs

After trying many different ways to keep loose door lock re-

mote-control buttons from pulling off the rods, I have found a sure way that is simple and fast.

Cut a small rubber band in half. Fold one piece in half to form a loop and insert the looped end in the control button, leaving the two ends of the rubber band protruding slightly. Now spread the two ends to be on opposite sides of the rod and thread the control button on the rod. The rubber band will wind up inside the control button and bind tightly to the button and rod.

—JOHN MOTTERT
Barford Chevrolet Co.
Clayton, Mo.

Speeds Panel Job

On most door-panel replacement jobs the damage is located below the belt molding. It's much easier and faster, in such cases, to replace just the damaged area below the molding, rather than the complete panel.

To make the replacement, cut off the lower part of the panel below the molding. Now match the cut on the new panel and install it with sheet metal screws or pop rivets. Weld or braze the ends.

With this method nothing has to be taken apart and the job can be done in one-third the time required to install a complete panel.

—ROBERT PEDRICK
Morrisville Motors
Morrisville, Pa.

How Would YOU Fix It?

A chance to test your skill as a troubleshooter

► The salesman's car had been gradually losing power. When a check indicated the need for a valve job, the salesman agreed to leave it with the repairshop for a few hours to get the work done. Although speed was essential to the customer, the shop serviced the valve faces and seats, checked the springs and buttoned up the

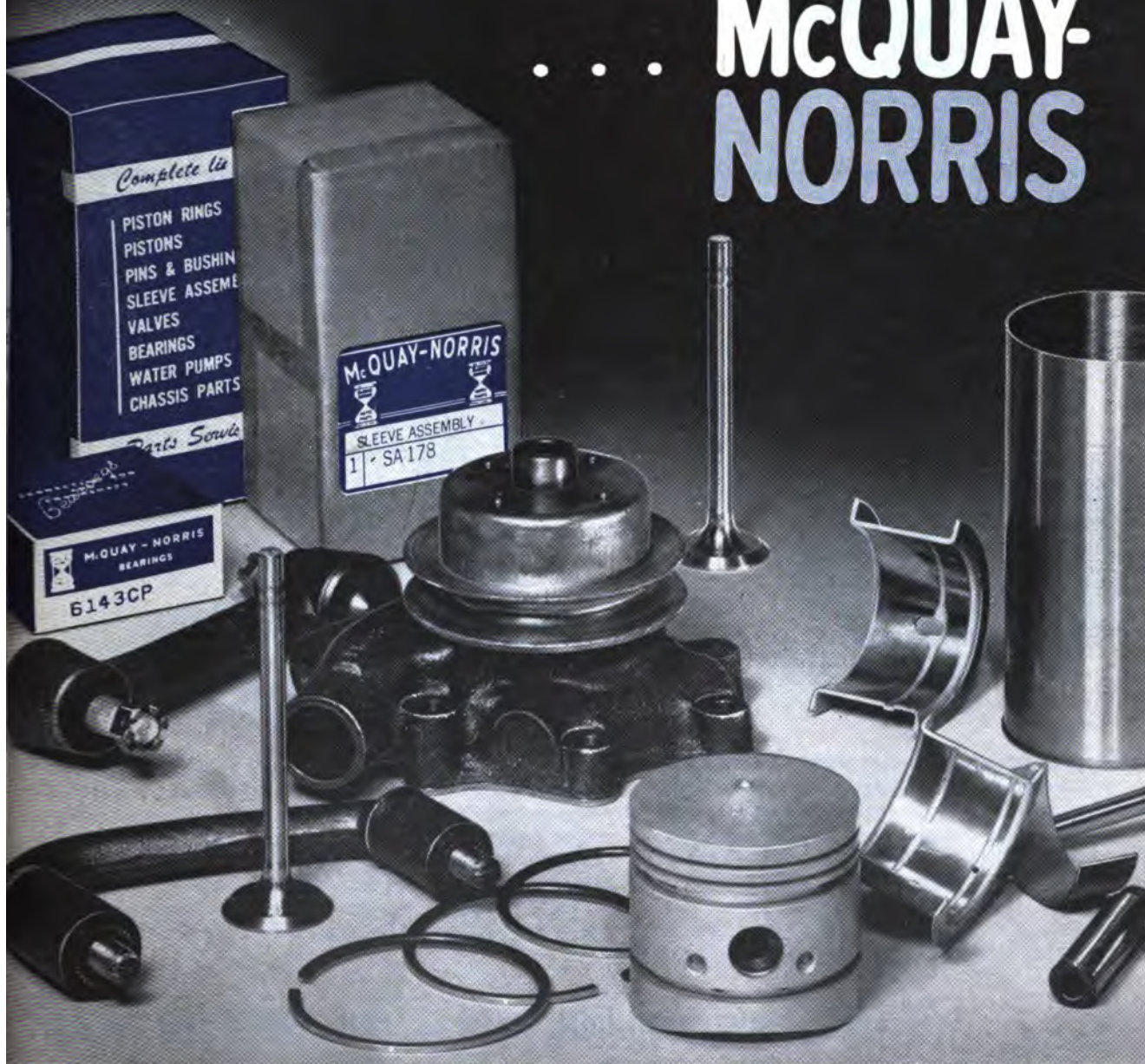
job after performing a fast tune-up.

The car ran fine but after a short time the customer was back, complaining of a miss. A check showed burned distributor points and a new set only gave a temporary correction.

Do you know what was overlooked on this job? Check the answer on page 180.

THE *Blue Box* LINE
...Your Guarantee
of *PERFECT*
MATCHED-PERFORMANCE

... **McQUAY-
NORRIS**



Rings, pistons, pins, bearings, valve train parts, water pumps, chassis parts? All parts in the McQuay-Norris line—designed and manufactured to the same high standards of quality and precision—are known for uniform performance and

longer service. Your McQuay-Norris Wholesaler is "replacement parts headquarters" to mechanics all over the country who have experienced the satisfaction of working with the McQuay-Norris line. Use them on your next job.



McQUAY-NORRIS MANUFACTURING CO., ST. LOUIS • TORONTO

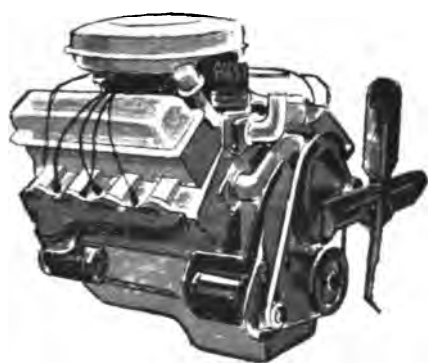
Here are the facts that will help



"Telar" is now only \$3.95 a gallon—the most economical long-lasting anti-freeze, anti-rust and summer coolant money can buy. If your customer plans to keep his car for more than one winter, the cost for protection with "Telar" can average out to dollars *less* than the cost of two fills with one-year anti-freezes. And remember . . . with "Telar" your customer buys only the anti-freeze protection he needs—no need to protect to 40° below zero if he doesn't need it.



"Telar" is installed just like you've been installing "Zerex" all these years, quickly and without fuss. "Telar" is not a difficult-to-handle full-fill product—no need to waste space stocking water. "Telar" and tap water in the proper proportions make the best anti-freeze, anti-rust and summer coolant on the market. And the amount of "Telar" your customer needs is *exactly the same* as the amount of "Zerex" you would install.



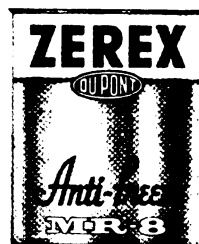
"Telar" is recommended for cars with aluminum engines. Years of research have proven that "Telar" completely protects the aluminum now used in many car engines. Same goes for *all* other metals in the cooling system . . . copper, iron, steel, etc. "Telar" is a modern product for modern cars. You can recommend it with confidence to all of your customers.



"Telar" is effective as a summer rust inhibitor and coolant, too. Many anti-rusts on the market today do not protect as well as "Telar" in the summer—when the threat of rust and corrosion is greatest. With "Telar" in the cooling system, there is complete protection from rust and corrosion. And "Telar" has a higher boiling point than water. Many dealers got a jump on the anti-freeze season last year—by recommending and installing "Telar" in July and August, before the first-freeze rush.

Be ready to go both ways . . . sell ZEREX and TELAR

ZEREX® anti-freeze
with MR-8 rust inhibitor
. . . finest permanent type
anti-freeze.



TELAR® anti-freeze and
summer coolant protects
year after year.



You sell Telar[®] in 1961

ANTI-FREEZE AND
SUMMER COOLANT

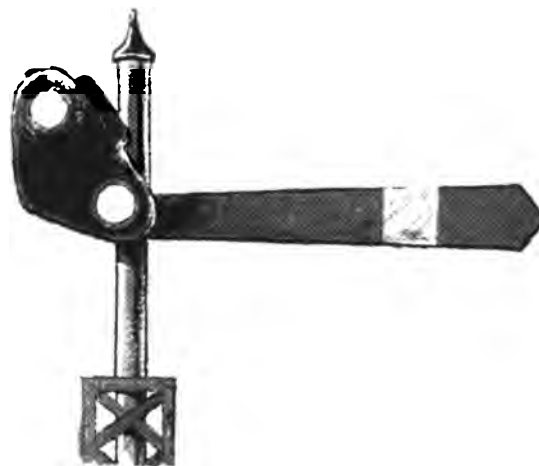


"Telar" does its work effectively year after year, winter and summer. The "Telar" you put in now will protect your customer's cooling system for as long as he keeps his car (requiring only occasional make-up). That's because Du Pont spent years of research in developing a rust inhibitor so effective it lasts year in, year out. This long-lasting protection, plus new low price, will make "Telar" appealing to many more of your customers.

"Telar" is sold through servicing dealers. Again this year, like last, you'll find "Telar" where it belongs—in service stations, garages and car dealerships. At \$3.95 a gallon, there's a lot of profit in selling "Telar"—and that profit is yours exclusively.



There's profitable make-up business for you with "Telar". Under normal driving conditions, a certain amount of loss through leakage and overflow is unavoidable with any anti-freeze. So once in a while, you'll find that your customer's radiator needs some make-up. In the summer you can add plain water; in fall and winter you'll add some "Telar". You build up a steady, repeat business that's fast and profitable.



Color Check is an added safeguard! Du Pont has proven that the super rust inhibitor in "Telar" can be expected to outlast your customer's car. To be sure he will have complete anti-rust protection at all times, a Color Check feature was added to assure him the rust inhibitor is continually doing its job. "Telar" is the first anti-freeze with such a safety feature. If "Telar" turns from normal red to yellow (and this rarely happens), the solution should be replaced, because it is no longer fighting rust, even though it may still be giving anti-freeze protection.

IMPORTANT NOTE TO DEALERS

You'll probably never have a customer whose "Telar" turns yellow. But if you should, you replace it immediately with the amount initially installed. Then return the installation certificate issued to the customer to your anti-freeze distributor. Your stock will immediately be replaced with the exact amount of "Telar" that you installed. □ Complete details for replacement of any "Telar" which has turned yellow, along with original installation certificate for your customer, will be found in the Du Pont 1961 point-of-sale Dealer Kit.



REG. U. S. PAT. OFF.
BETTER THINGS FOR BETTER LIVING
... THROUGH CHEMISTRY

IS IT LEGAL?

By Arthur L. Reuter of the New York Bar



Law Suit Arises After Sale of Dealership

In the contract by which Jack Slough sold his Enterprise dealership to Marty Schnell, was the following provision:

"Tools, equipment, furniture and fixtures shall be paid for at replacement cost. Replacement cost shall be deemed to mean the amount at which any item could be replaced at retail by an item of comparable kind, quality and condition at the seller's place of business."

Hans Hendrickson was named in the contract as the appraiser to set the values of the items. When Hans had completed his report and named the figures, Slough asked Schnell for the money.

Schnell refused to pay.

"The appraisal does not comply with the contract," Schnell said. "Instead of getting exact figures for the items, Hendrickson has used the original cost price less depreciation. This has brought a much bigger amount than I should have to pay."

No Secondhand Market

Slough sued for the amount of Hendrickson's valuation and was awarded judgment for the full sum.

Judge Keen explained, "There was no secondhand market for the items. The items simply could not be replaced at retail locally except by new articles which was not what the contract intended, because it specified the cost of replacement 'by an article of comparable kind, quality and condition.' In other words, old and used articles were to be paid for at the value in the market of such old and used items.

"Since there was no local market, performance of the contract exactly as intended became impos-

sible. If no part of the contract had been performed, the parties would have been under no obligation to continue. But part of the price had been paid and Schnell had gone into possession of the dealership.

"Under the circumstances, the rule of reason must prevail. The appraiser's method, namely, taking the original cost and allowing for depreciation, was a fair and proper method of determining reasonable value."

Based on case reported in 351 Pac. 2d at page 872 (Col.)

Oil Firm Seeks to Stop Station Price-Cutter

Peppo Oil Corp. entered into "fair trade" agreements with its service station dealers, in which the station owners agreed not to sell Peppo gasoline at less than stated minimum prices. Jack Jackson, Peppo dealer in Midcity, not only refused to sign the agreement, but continued to sell Peppo gasoline at less than the standard Peppo price.

The company brought suit for an injunction to stop Jack from cutting the price.

"We are in competition with other major gasoline companies in Midcity and Jackson's price-cutting does us irreparable harm," Peppo said.

To Foster Competition

But when the case came before Judge Smart, he denied the application for an injunction and dismissed Peppo's suit.

"Fair trade laws are valid only if they foster competition, not throttle it," the judge said.

"A tour of Midcity fails to reveal any substantial difference between Peppo and other gasolines in a competitive way. There is no proof that Peppo differs in content or quality from others merely because it is different in color or advertising slogans and all gasolines seem to be uniform in price. The only competition seems to be that one man keeps his station neater than another.

"Since the fostering of competition is the purpose and justification for the statute, it is clear that Peppo does not come within its protection and no injunction is justified."

Based on case reported in 157 Atl. 2d at page 63 (Pa.)

Claims Shop's Trucks Not Covered by Insurance

Gordon operated Gordon's Sales and Service, which consisted of a service station and repairshop. On the premises he had a used car sales operation and held a dealer's license. He owned two farms adjoining the service station. He also did a bit of lumbering and trucking.

In the used car area, displayed for sale, was a Paramount truck. Occasionally the truck was taken out to tow a disabled car or for casual hauling jobs.

While towing a damaged automobile to the repairshop, the truck became involved in an accident. Two people were injured and made claims against Gordon for damages.

When Gordon's insurance carrier rejected liability, Gordon brought suit against it to have his rights to protection enforced, relying on the fact that the truck was used for business purposes.

[CONTINUED ON PAGE 130]



1909 LUVERNE
Originally manufactured
in Luverne, Minnesota

Modern car or antique, the easiest way to seal troublesome small cracks, leaks and openings is with 3M Brand Drip Chek Sealer. This fast-drying rubber base sealer is ideal for use on drip rails, moldings, cowlings and welded seams. Off-white color makes it perfect for light-colored cars . . . can be painted 30 minutes after applying . . . won't crack with age. 3M Drip Chek Sealer is one of the newest products in the complete line of 3M Adhesives designed to meet every automotive need. Order a supply of shop-proven 3M Adhesives today from your 3M supplier.

3M AUTOMOTIVE PRODUCTS GIVE THE RIGHT START TO A PERFECT FINISH

"3M" IS A REGISTERED TRADEMARK OF 3M CO., ST. PAUL 6, MINN.

MINNESOTA MINING AND MANUFACTURING COMPANY

... WHERE RESEARCH IS THE KEY TO TOMORROW





News for Jobbers

1962 Pacific Show For Portland

Next year's Pacific Automotive Show, the 14th, will be held at Portland, Ore., March 22-25. This will be the fourth Pacific Show to be held in the Northwest. The scene will be the Memorial Coliseum.

Harold Littrell, Littrell Parts, Inc., Medford, Ore., is president of the show for 1962, S. B. Sturtevant, Sturtevant Motor Parts Co., Van Nuys, Cal., is first vice president, William D. Henderson, Henderson Brothers, Sacramento, second vice president. Rollin McBurney, Boggs and McBurney Auto Parts, Inc., West Los Angeles, is secretary and A. V. Rodman, manufacturers' representative, Los Angeles, treasurer.

17 Join AERA

Seventeen new members have been accepted by the Automotive Engine Rebuilders Assn. Of these, 12 are active and five associate. One of the new active members is Canadian.

Full-Time Salesman Program Discussed

Plans for bringing fully employed salesmen into more active participation in the organization's affairs was recently explained to 11 regional groups of the Automotive Affiliated Representatives by Ed L. Lee, AAR executive secretary. Lee's travels took him as far West

as Seattle and as far South as Richmond. Lee also discussed AAR's coded customer list and the organization's new group insurance program.

Indiana Jobbers Form Group

After electing temporary officers and directors, automotive wholesalers in Indiana recently took the first step toward creation of a state-wide organization.

Robert A. Smith, Century Auto Parts, Indianapolis, was named temporary president; Louis H. Wasmuth, Portland Motor Parts, Portland, Ind., temporary vice president, and Paul Hunckler, Sturm Auto Parts, Huntington, temporary secretary-treasurer. The second state-wide meeting will be held in September.

Manufacturer Seminar Being Repeated

A second seminar on executive development for manufacturer members will be conducted by the Automotive Service Industry Assn. at the University of Illinois the week of Nov. 5 next. The first seminar held last year was adjudged an unqualified success.

Among the subjects to be studied at the forthcoming seminar will be economic research and forecasting, motivation, communication, finances, sales management and organization.

California Jobbers Ask More Shows

At its recent quarterly meeting, the California Automotive Wholesalers Assn. endorsed a proposal by the Pacific Automotive Show that one national and two regional shows be held each year.

John Morley, a feature speaker at last February's AAR breakfast at Los Angeles, has been signed as the feature speaker at the CAWA members' meeting, Nov. 17, at San Diego.

Thayer's Work Cited

In the presentation recently of a certificate of appreciation, the Automotive Service Industry Assn. recognized the contributions of Les A. Thayer, Belden vice president-sales, during his term of office as president of ASIA.

Jobber Sales Up, Profits Down

Although the 410 automotive jobbers reporting in the Motor and Equipment Manufacturers Assn.'s annual survey increased sales on the average from \$453,520 in 1959 to \$463,673 last year, both gross and net profits were below the 1959 level.

Average gross for the jobbers reporting in 1960 was 27.6 per cent compared with 28 per cent in 1959. Net as a percentage of sales after provision for taxes was 2.5 per cent in 1960 compared with 2.8 the year before.

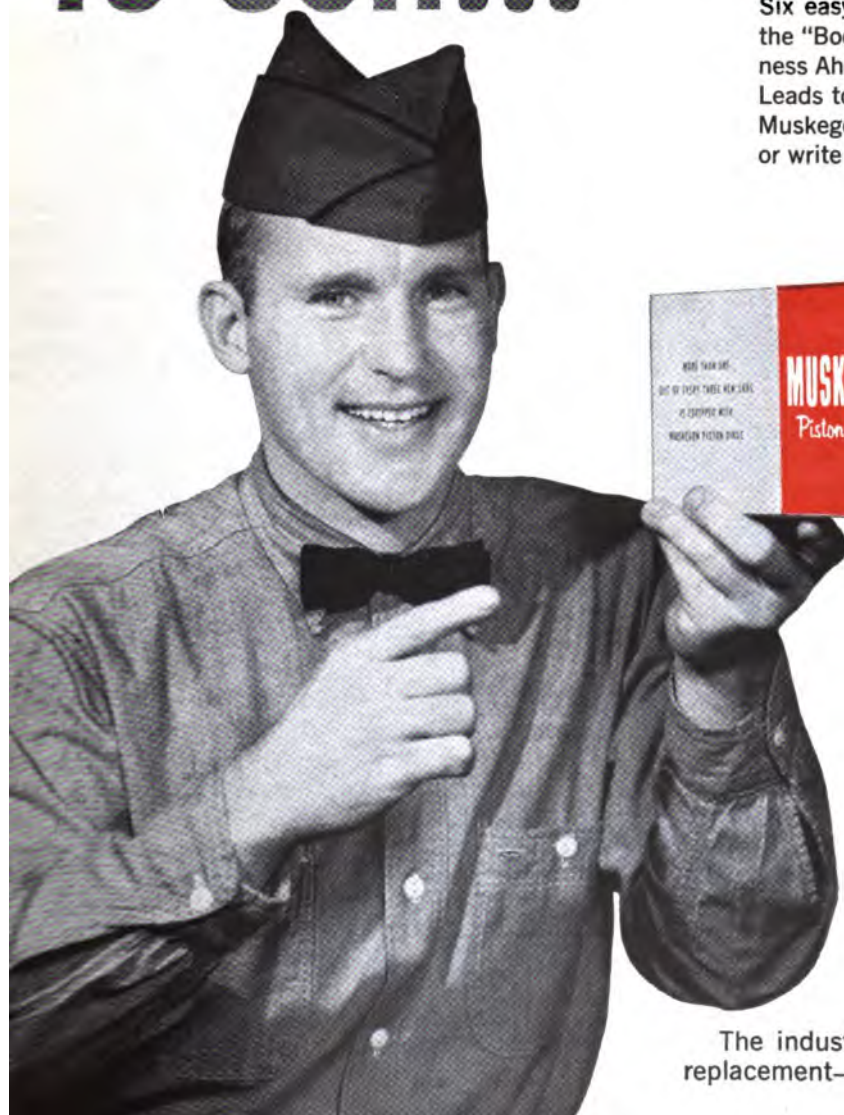
Net worth of the reporting jobbers also fell in 1960, averaging 2.9 per cent compared with 3.2 per cent in 1959. Inventory turnover remained the same at 3.4.

Signs Consent Order

A consent order signed by Montgomery Ward and Co. and approved by the Federal Trade Commission prohibits a mail order firm from "making deceptive pricing

[CONTINUED ON PAGE 86]

try the
piston
se' *
that's
exciting
to sell...



* MUSKEGON "ENGINE-DATED" SETS

make faster, easier sales for you. When you sell and install an "Engine-Dated" set, you know you're installing the very best combination of rings ever developed for the particular engine into which they're going. There's no guesswork on your part as to what grade you should install... you install only the very best. You and your customers get important savings too, from the distributing economies accomplished by Muskegon. Individually packaged with easy-to-follow instructions that save work and assure the right installation every time. "Engine-Dated" sets deliver peak performance... that's why Muskegon has been the engine builders' source since 1921 and why more than 1 out of every 3 new cars is equipped with Muskegon.

**JUST TRY THEM ONCE AND
YOU'LL SEE WHY "ENGINE-
DATED" SETS ARE EXCITING TO
SELL... A PLEASURE TO INSTALL.**

Request This Fact-Filled Booklet. Six easy-to-read pages tell about the "Booming Engine Repair Business Ahead" and how "Re-Ringing Leads to Related Sales." Ask your Muskegon jobber for a FREE copy or write us direct!



The industry's source—original equipment and replacement—for Piston Rings and Transmission Parts

News for Jobbers

continued from page 84

and savings claims" for its tires, accessories and parts. As in all consent decrees, the company's agreement does not admit a violation of the law.

Abandons False Oil Ads

In a consent agreement with the Federal Trade Commission, Edgar F. Henley and Truman F. Wil-

liams, trading as Henley Oils, Norphlet, Ark., promised not to sell oil which is composed wholly or partly of previously used oil without disclosing this fact in its advertising and labels.

Buys Brake Fluid

The Weatherhead Co. has acquired Puritan Brake Fluid, which had been marketed by Olin Mathieson Corp. Besides the fluid itself, Weatherhead will distribute Puritan hydraulic brake parts.

ASIA Safety Decals



Members of Automotive Service Industry Assn. have recently received green and black decals reading "Highway Safety Is Our Business." The purpose is to identify individual members with the association's support of the drive for vehicle inspection programs.

Display of the decal, J. A. Bryant, ASIA president, says, will assist "in the enactment of periodic motor vehicle inspection laws in those states not having them."

Sales Forces Combine

Combination of sales forces of John Bean Div. and Barrett Equipment Co., both subsidiaries of the FMC Corp., have been practically completed. Most sales representatives of both organizations are still on the job. This has been accomplished by consolidating some territories.

AWDA Admits Eight

Eight new members have been accepted by the Automotive Warehouse Distributors Assn. Seven of them are distributors. The new manufacturer affiliate is the Electric Storage Battery Co.

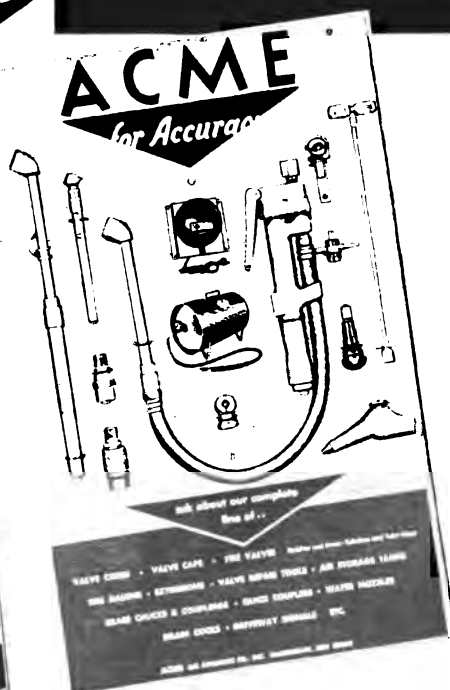
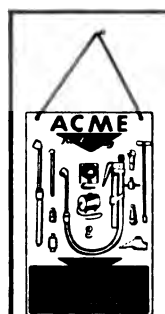
Adopts New Banner

A new banner has been adopted by the Assn. of Diesel Specialists. It will be unfurled for the first time at the association's annual convention at Minneapolis next month.

ASIA Honors Old-Timers

Automotive Service Industry Assn. recently honored 173 of its member-firms by presenting each with a Distinguished Service Award
[CONTINUED ON PAGE 91]

**IT'S
NEW!**



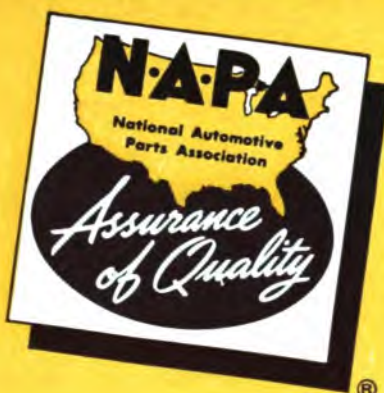
**This NEW
ACME
"Silent
Salesman"
#3000
will Sell
for You...
will bring
You more
SALES...
more
PROFITS!**

SEND FOR COMPLETE LITERATURE

ACME
for Accuracy
SINCE 1915

ACME AIR APPLIANCE Co., Inc.

205 NEWMAN STREET • HACKENSACK, N. J.



Nationally Advertised Parts and Supplies
of Genuine Quality



This is the Sign

**that offers you a bigger selling and profit opportunity
on repair work than any other sign you can display**

What grounds do we have for a statement like that? . . . Plenty! . . . The N·A·P·A Seal represents practically all types of parts, equipment and supplies for all makes of cars, trucks and tractors—not just *one* type of product for all makes—not lines for *just one* make—but across the board. These nationally advertised products, as you will see on the next page, come from the nation's leading manufacturers, with combined resources of more than \$1,000,000,000. And they're all available with one stop, one phone call, one order, from your N·A·P·A Jobber.

The Selling Opportunity? . . . The N·A·P·A Seal is recognized by millions of car owners—at home or away from home—as a symbol of quick parts availability and prompt repair service. Year after year, N·A·P·A's national advertising has been telling car owners they can depend on the N·A·P·A Seal—and the shops that display it.

The Profit Opportunity? . . . Don't misunderstand. You can't buy products bearing the N·A·P·A Seal any cheaper than you can buy products of genuine quality anywhere else. BUT the time you save in *shopping around* for parts—in keeping skilled mechanics from *waiting* for needed parts—makes a big difference in the number of jobs you can handle in your shop and deliver on schedule; a real increase in the net profit you realize on your whole operation.

Have a talk with your N·A·P·A Jobber soon. *Learn* about his service. *Profit* from it—and the business the N·A·P·A Seal will bring to your shop.

NATIONAL AUTOMOTIVE PARTS ASSOCIATION • 29 E. MADISON ST., CHICAGO, ILLINOIS

ENGINE

Allied Pistons, Piston Pins, Sleeve Assemblies, Valves, Valve Springs and Water Pumps.

Allied Automotive Parts Co.
Indianapolis, Indiana

MicroTest Timing Gears, Timing Chains & Sprockets

Microtest Timing Gears
Cleveland 12, Ohio

Modac Fan Belts, Air Conditioning Belts, Power Steering Belts, Radiator Hose, Heater Hose, Power Brake Hose

National Products, Inc.
Denver 17, Colorado

Monmouth Engine Bearings
Clevite Service • Cleveland 3, Ohio

Thomson Thermostats, Thermostat Assortments

Standard-Thomson Corporation
Waltham 54, Massachusetts

VICTOR Gaskets, Oil Seals, Power Steering Equipment

Victor Manufacturing & Gasket Co.
Chicago 50, Illinois

ZOLLNER Aluminum and Bi-Metallic Pistons

Zollner Corporation • Ft. Wayne, Indiana

AXLES & DRIVE LINE

Allied Tie-Rod Ends, Ball Joints, Torsion Bars, Coil Springs, Front End Suspension Parts

Allied Automotive Parts Co.
Indianapolis, Indiana

American Brakeblok

Sintermet Transmission Discs
American Brakeblok Division
Birmingham, Michigan

BRIGGS Shock Absorbers and Load Absorbers

Briggs Shock Absorber Company
Cleveland, Ohio

CLEVELAND Universal Joints

Cleveland Steel Products Corp.
Cleveland 35, Ohio

DETROIT Universal Joints, Drive Shafts

Detroit Universal Division
Dearborn 1, Michigan

DITTMER Transmission & Overdrive Gears

Dittmer Gear Division • Auburn, Ind.

Federal Ball Bearings
The Federal Bearings Co., Inc.
Poughkeepsie, New York

MicroTest Automatic Transmission Parts and Kits

MicroTest Gear Company
Indianapolis, Indiana

Monmouth Clutch Plates
Dana Corporation • Toledo, Ohio

RARITAN Roller Bearings
Raritan Bearings • West Trenton, N. J.

Soundmaster Mufflers, Exhaust and Tail Pipes, Exhaust System Accessories

DeKoven Manufacturing Company
Racine, Wisconsin

Spicer Universal Joints & Propeller Shafts; Transmissions; Power Take-Offs; Clutches; Hub/Lok; Axles;

Dana Corporation • Toledo, Ohio

VICTOR Automatic Transmission, Pinion & Wheel Seals

Victor Manufacturing & Gasket Co.
Chicago 50, Illinois

ELECTRICAL & SAFETY

American Brakeblok

Brake Lining, Clutch Facings.

American Brakeblok Division
Birmingham, Michigan

Belden IRS Ignition Sets (Ignition Radiation Suppression), Vinyl and Lacquered Braid Primary Wire, 6 & 12 Volt Battery Cables & Ground Straps, Terminals
Belden Manufacturing Company
Chicago 80, Illinois

BRIDGEPORT Tire Valves, Accessories
Bridgeport Brass Company
Bridgeport 2, Connecticut

ECHLIN Ignition and Electrical Parts
The Echlin Manufacturing Company
Branford, Connecticut

TRILCO Windshield Equipment for Motor Vehicles

Trico Products Corporation
Buffalo, New York

TUNG-SOL Directional Signal Flashers
Tung-Sol Electric, Inc. • Newark, N. J.

UNITED Hydraulic Brake Parts, Brake Fluid, Parking Brake Cables and Assemblies, Power Brake Kits, Speedometer Cables and Casings, Fuel Pump Kits

United Parts Division
The Echlin Manufacturing Company
Chicago 7, Illinois

VISALL Turn Signals and Switches; Reflex Reflectors; Truck Mirrors; Flares; Lights—Clearance Marker, Stop and Tail, Emergency, Fog, Driving and Back Up.

Vehicle Products Company
Cincinnati 10, Ohio

Weatherhead Brass Fittings, Oil & Gas Lines, Controls, Hydraulic Brake Fittings, Power Steering Hoses
The Weatherhead Company
Cleveland, Ohio

TOOLS & EQUIPMENT

B*K Test Equipment for Engines, Automatic Transmissions, Electrical and Cooling Systems.

B*K Service Products
Indianapolis, Indiana

FLEET Hydraulic and Mechanical Jacks; Specialized Service Handling Equipment

Edgewater Automotive Division
St. Joseph, Michigan

New Britain A complete line of hand tools for automotive mechanics; plus specialized tools for repair and adjustment of automatic transmissions.

The New Britain Machine Company
New Britain, Connecticut

Soundmaster Heatmaster—Electronic Muffler Removal Tool, Kutmaster—Precision Pipe Cutter, Pipe-rounder and Pipe expander—Safety Fit Tools

DeKoven Manufacturing Company
Racine, Wisconsin

APPEARANCE & MAINTENANCE

BALKAMP Miscellaneous Parts for Ford, Chevrolet, Plymouth and other popular cars; Rubber Products, Switches, Starter Drives.

Balkamp, Inc. • Indianapolis, Indiana

B*K Service and Supply Necessities (more than 1600 numbers)

B*K Service Products
Indianapolis, Indiana

MAC'S Automotive Polishes and Chemicals

Mac's Super Gloss Co., Inc.
Los Angeles 42, California

MARTIN-SENOUR Automotive Colors, Undercoats, Thinners and Reducers, specialties

The Martin-Senour Company
Chicago 8, Illinois

Prospect Contour Replacement Front, Rear and Trunk Mats

Prospect Rubber Company
Cleveland 3, Ohio

ROCKFORD Fasteners, Screws, Nuts and Bolts, (Used Everywhere).

Rockford Screw Products Co.
Rockford, Illinois

trophy Floor Mats, Litter Baskets
Rubbermaid, Inc. • Wooster, Ohio

...A "Parade of Parts" serves repairmen everywhere through 3,000

NAPA Jobbers



WHEEL CYLINDER KITS

***feel* the difference in this Wheel Cylinder Cup!**

UNITED Extras in WHEEL CYLINDER CUPS:

1. Extreme heat in brake system does not damage Cup.
2. Withstands extremely cold temperatures.
3. Lasting resilience assures long life.
4. Precision trimming of Cup provides a tough, keen sealing edge.
5. Cup elasticity assures adequate sealing pressure and avoids sloughing and sludging caused by Cup Expanders.

THESE FAMOUS HIGH HEAT RESISTANT CUPS THAT FAR EXCEED SAE HEAVY DUTY SPECIFICATIONS ARE USED IN ALL UNITED WHEEL CYLINDER KITS AND ASSEMBLIES.



UNITED *Brake Parts* **ECHLIN** *Ignition*

UNITED PARTS DIVISION • CHICAGO, ILL.

• THE ECHLIN MANUFACTURING COMPANY • BR

ECHLIN - UNITED OF CANADA, LTD., TORONTO

News for Jobbers

continued from page 86

for "exemplary and enduring" service to their communities and to the industry.

Only member-firms of ASIA who have been in business continuously at least 25 years are eligible to receive the award.

Buys Finishes Firm

Jamestown Finishes, Inc., Jamestown, N.Y., a former Rubbermaid Inc. subsidiary, has been purchased by the Tremco Manufacturing Co.

Jobber Doings

A 1 per cent service charge on past-due accounts will be levied by members of the Ohio Automotive Wholesalers Assn. if a resolution adopted at the recent convention is observed.

The third annual convention of the Kentucky Automotive Wholesalers Assn., Aug. 13-15, will be addressed by Jack Bryant, president of the Automotive Service Industry Assn.

Hendrie and Bolthoff Co., operating a 31-store chain from Denver, has been acquired by the American Parts Co., Houston, parts division of Gulf and Western Industries.

Patten Sales Co., Jacksonville, Fla., a unit of a Gulf and Western Industries division, has acquired Spencer Auto Electric, with headquarters at Tampa, Fla.

Manufacturer's Personnel

CARLES E. ROWETT to director of sales and service, Eclipse-Pioneer Div., the Bendix Corp.

A. T. COLWELL to director, the Gabriel Co.

ROBERT B. KIERSKY to vice president of marketing, EDGAR W. LOCHRIE to vice president of sales, and FRANK P. REGGIO to general sales manager, Permatex Co., Inc.

EDGAR W. CLARK to the new post of director of marketing services, Eaton Manufacturing Co.

CARL E. JOHNSON to new position of division sales manager in charge of all automotive original equipment and jobber sales and all ma-

rine original equipment and dealer sales, Sparton Automotive Div.

EARL F. WONACOTT to corporate advertising manager, PHILLIP A. SINCLAIR to sales promotion manager, RICHARD D. KELLY to manager of national account sales, the Electric Autolite Co.

ROBERT N. FISHER to marketing manager for replacement gaskets, the Vellumoid Co.

R. D. (DON) MCGOVERN to oil filter merchandising manager and MILTON N. WEATHERHEAD, Jr., to merchandising manager for lamps,

pressure caps and hydraulic valve lifters, AC Spark Plug Div.


A. A. KRUEGER to vice president of sales and R. L. SMIRL to vice president of engineering, Borg and Beck Div., Borg-Warner Corp.


CLAUDE W. MASON to vice president and assistant general manager and FRANK J. HOYNE to vice president—sales, Mechanics Universal Joint Div., Borg-Warner Corp.

SAMUEL J. ROUMELES to vice president-sales, Casco Products Corp.


HARMON (BUD) OREN, JR., to sales manager, Watervliet Tool Co.

NOW— ALL FROM ONE SOURCE!







CAPS
RADIATOR CAPS
New Exclusive Green Push Button Safety Caps—also standard pressure caps. Open stock or 12 per display ass't.



GASOLINE CAPS
A complete line of fenderwell caps. Also, outside caps and locking caps in gleaming chrome.



OIL FILLER CAPS
All sizes and styles to fit American and foreign cars—trucks and tractors.



CLAMPS
QUICK-SEAL
The new quick-attach worm gear clamp with SAF-T-LOCK feature.

GOLD SEAL
The popular Murray worm-drive clamp for all radiator and heater hose installations. Available with collared or non-collared screw. In open stock or attractive merchandisers.


BATTERY SERVICE PRODUCTS
BATTERY HOLD DOWNS—New HD-12 Profit-Pak contains 12 steel-reinforced plastic battery hold downs in the 6 most popular sizes. Display is FREE.

CLAMP-A-RAMA
Displays and holds 100 clamps in 4 popular sizes. Display is FREE.

Your single source for:
**CLAMPS, RADIATOR CAPS & OIL CAPS,
BATTERY SERVICE PRODUCTS**

See Your Jobber, or Write for Details to:
TOWSON 4, MARYLAND

Phone VA 3-8100



Martin Bury Revises Book for Dealers

"The Automobile Dealer," by Martin Bury, long-time Philadelphia automobile dealer and frequent contributor to MOTOR Magazine, has been republished in a revised edition. The original version was reprinted once.

A new chapter on labor relations has been added in the revised edition. This information, together with new material on collections and operating formulas, adds con-

siderably to the length of the book. It now contains 320 pages.

Chrysler Net Up

Chrysler Corp.'s net earnings for the three months ending June 30, 1961, were \$6,200,000, as compared with a net loss in the first quarter of \$21,900,000.

Sales for the first half of the year totaled \$995,000,000. The company lost \$15,700,000 in the first six months. In the same period last year, Chrysler earned \$23,700,000.

Sought by FBI



James M. Tuttle

Charged with fleeing Orange County, Cal., in July, 1960, to avoid prosecution for alleged rape, James Marvin Tuttle, also known as Tut, is being sought by the Federal Bureau of Investigation. He is said to have been employed as an automobile mechanic and most recently had operated his own automatic transmission shop.

Tuttle, 37, is about 5 ft. 1 in. tall, has a short left leg and walks with a limp. He is said by the FBI to carry an automatic pistol and should be considered dangerous.

Anyone having information concerning Tuttle's present whereabouts is urged to contact the nearest FBI office.

Safety Speech Hailed

Clifton W. Phalen, president of the New York State Citizens Council on Traffic Safety, in a speech delivered before the New York State Conference of Mayors, urged that local safety councils be formed to help reduce accidents.

He outlined a six-point program which his council has adopted and put into action.

Copies of Phalen's address are being circulated among interested groups throughout the country by W. R. Hearst, Jr., chairman of the President's Committee for Traffic Safety.

New Finance Plan Covers Equipment Purchases

A new financing plan to enable garages and service stations to buy automotive equipment and pay up to 90 per cent of the cost in equal monthly installments has been announced by Universal C.I.T. Credit Corp.

Terms range up to 36 months and a minimum of 10 per cent down is required. New or used equipment may be financed.

**TEN MILLION
GENERATORS
AGO***

**a new
performance
test was created**

For Service Shops and Jobbers, it provides Rebuilt Generators proved fit for road service before they leave the production floor.

How is it possible? We spent years finding the answer. In fact, the first 101 testing methods which we designed and built were unsatisfactory. But the 102nd design succeeded, and Test "102" was born. Since then, advanced electronic instrumentation has refined its accuracy and reliability.

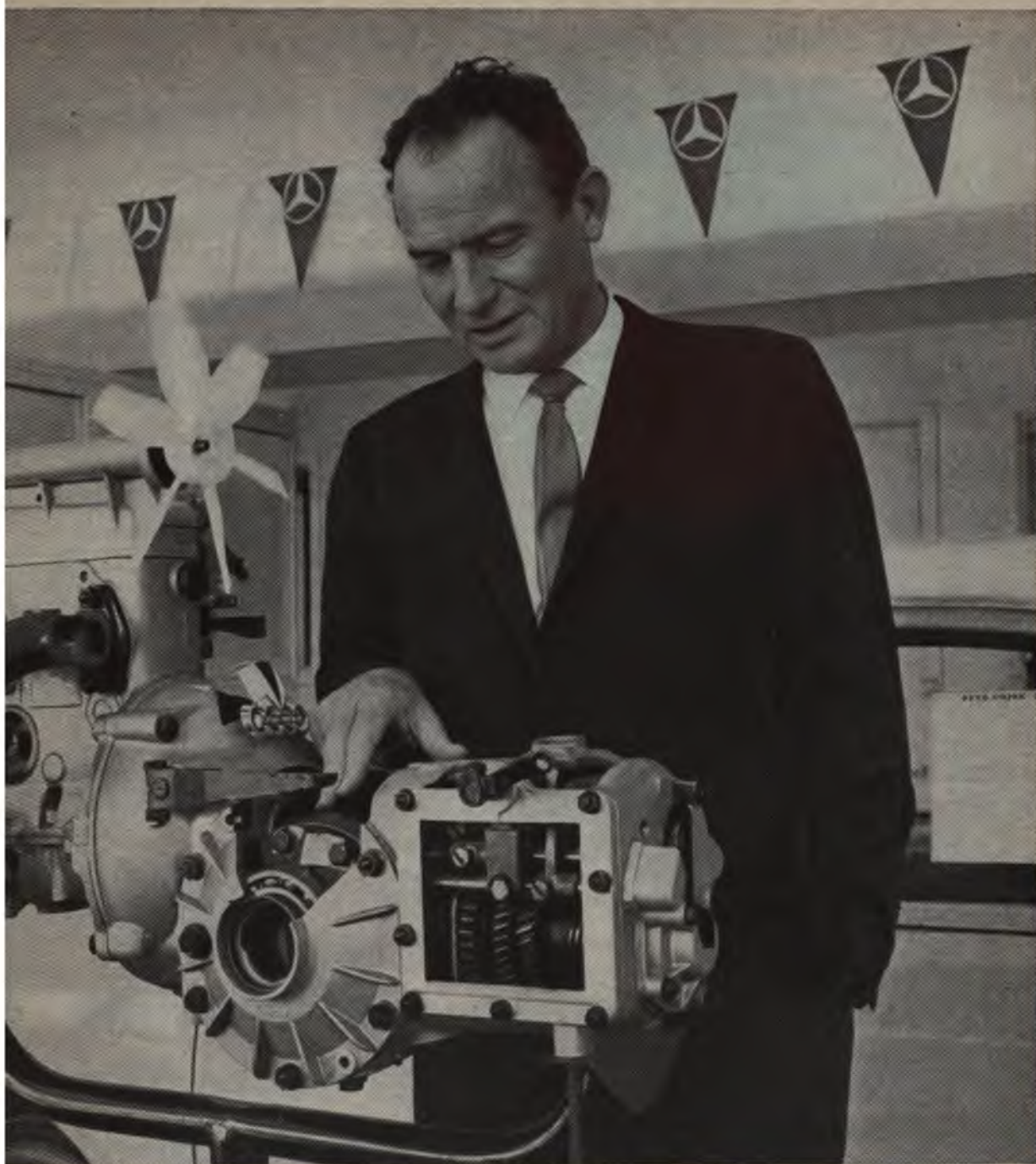
Does it work? We think so because more than 10,000,000 Arrow Generators have passed this "performance test", others have failed and gone back for reprocessing. No Arrow Rebuilt Generator ever leaves the plant until Test "102" has proved it fit for service.

*That is, ten million ARROW generators ago.



ARROW ARMATURES COMPANY

BOSTON 34, MASS. • SPARTANBURG, S. C.



Yellow Pages advertising builds sales and service
 ss," says C. E. Gretnier, Pres., Gretnier Bros. Inc.,
 Fla. "Very few dealers handle the makes of imported
 e sell. So—customers for our lines have to use the Yellow
 to locate a dealer. Our Yellow Pages advertising helps us
 share of this business. We buy the largest size display
 ilable because a lot of our export customers in Latin
 a turn to the Miami Yellow Pages whenever they need
 r service. We want them to turn to us!"



Display this emblem. It builds your business?

Display ad (shown reduced) runs under
 AUTOMOBILE DEALERS—NEW CARS. Call the
 Yellow Pages man at your Bell Telephone
 Business Office to plan your program.



English
FORD
Line

SALES & SERVICE



PARTS SUPPLIER TO SOUTH FLORIDA
& LATIN AMERICA



Gretnier Bros.
 1799 S.W. 8th St. FR 3-5784

NEW time-saving OTC tools

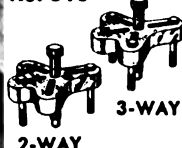


NEW 2-way 3-way flange-type puller

- REMOVES HARMONIC BALANCERS, TIMING GEARS, ETC. ON LATE MODEL CARS

Like two pullers in one! . . . allows mechanic to quickly and easily remove harmonic balancers, timing gears, etc. which have either two or three tapped holes. Handles bolt-circle diameters from 1½" to 4¾".

No. 518

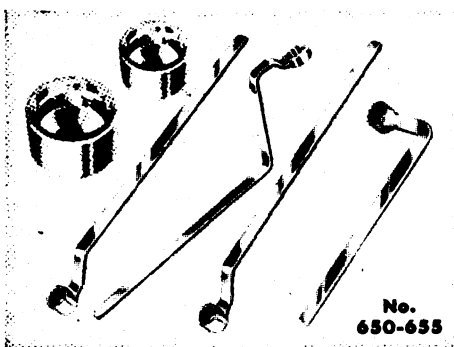


NEW "Zirc-Ram" tool

- FREES FROZEN GREASE FITTINGS QUICKLY AND EASILY

With one hammer blow "Zirc-Ram" generates up to 1,000 lbs. of hydraulic pressure, quickly frees frozen zirc-type grease fittings and often reseats damaged fittings. Works on either straight or angle fittings, will not harm fittings as pressure is exerted by oil, not metal.

No. 519



NEW ball joint suspension sockets, wrenches

- EASILY REMOVE AND INSTALL BALL JOINTS; ADJUST CASTER, CAMBER

Specially designed ball joint suspension sockets quickly remove and install ball joints from upper and lower "A" frame on Chrysler built cars. Four new ball joint suspension wrenches adjust caster and camber on late model Ford, Mercury, Lincoln and Rambler cars.

No. 650-655

Other NEW time-saving OTC tools and equipment



No. 517

NEW gas gauge lock-nut wrench for late model Chrysler cars.



No. 434

NEW Ford generator wrench—for generator mounting brackets.



Nos. 961-965

NEW flange-type rear axle bearing puller—installer.



No. 656

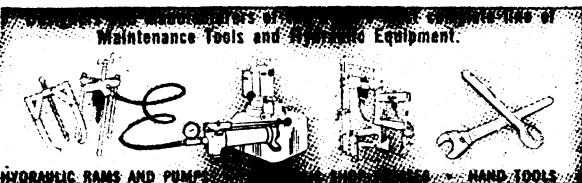
NEW Ford manifold nut wrench for right and left bank.

See your OTC distributor about these and other special OTC tools, or write:



OWATONNA TOOL COMPANY

332 CEDAR STREET OWATONNA, MINN. CABLE: TOOLCO



Things to Come

DEALER CONVENTIONS

Aug. 20-21 Wyoming, Jackson
Aug. 20-23 West Virginia, White Sulphur Springs
Sept. 13 Vermont, Stowe
Oct. 22-24 New York, Kiamasha Lake
Oct. 22-24 New Jersey, Atlantic City
Oct. 29-31 Florida, Ft. Lauderdale
Dec. 4 Utah, Salt Lake City
Dec. 4-5 Minnesota, Minneapolis
Dec. 8-9 Montana, Billings
Feb. 3-7 National Automobile Dealers Assn., Atlantic City

PARTS AND EQUIPMENT SHOWS

Oct. 23-26 Fleet Maintenance Exposition, New York
Dec. 9-11 Annual Auto Trim Show, Los Angeles
Feb. 28- International Automotive Service Industries Show, Chicago
Mar. 22-25 Pacific Automotive Show, Portland, Ore.

GENERAL

Sept. 14-17 Assn. of Diesel Specialists Meeting, Minneapolis, Minn.
Oct. 12-13 Western Engine Rebuilders Assn. Convention, Palm Springs, Cal.
Oct. 29- National Lubricating Grease Institute Meeting, Houston, Tex.
Nov. 1 Automotive Warehouse Distributors Assn. Convention, Kansas City, Mo.
Nov. 2 Automotive Parts Rebuilders Assn. Convention, Los Angeles
Dec. 7-14 Automotive Electric Assn. Annual Meeting, Chicago
Feb. 26-27 Automotive Service Industry Assn. Convention, Chicago
June 29- IGO-California, San Diego
July 1

S-P Seeks New Products

Studebaker-Packard Corp. has established an applied research division to develop new products and improve existing ones. A group of specialized engineers will be appointed to run the division.



"Who says honesty pays?"



Nationwide outdoor billboards feature "PRESTONE" Long Life Coolant!

This year your customers will see "PRESTONE" Long Life Coolant advertised on giant billboards like the one above.

Be sure to take advantage of this nationwide advertising by using the free point-of-sale merchandising kit included with every six-gallon carton of "PRESTONE" Long Life Coolant. It includes a colorful window display banner, a protection and capacity chart, six embossed foil installation stickers, six Consumer Guarantee and Installation Directions folders and a copy of the Dealer Inspection Instructions.

For customers who ask for extended-use anti-freeze be sure and sell them the best. "PRESTONE" Long Life Coolant is the quality leader of the extended-use anti-freeze products.

*The famous 25-year-old "Prestone" Anti-Freeze full-winter guarantee against freezing and corrosion.

PRICE \$3⁹⁵ PER GALLON

Fair Trade Price applicable in all states having effective Fair Trade Laws.



"Prestone" and "Union Carbide" are registered trade-marks for products of

UNION CARBIDE CONSUMER PRODUCTS COMPANY • Division of Union Carbide Corporation • 270 Park Avenue, New York 17, N. Y.

Quick Service Data on 1961 Passenger Cars

TIRES..BATTERIES..CAPACITIES—COOLING SYSTEM

MAKE AND MODEL	Hood Release Location	CAPACITIES								TIRES		BATTERY	THERMOSTAT	COOLING		RADIATOR		FAN BELT								
		Oil (Qt.) Refill	Water (Qt.) With Heater	Trans.		Automatic (Qt.) and Dipstick Location	Overdrive (Pt.)	Axle (Pt.)	Gas (Gal.)	Size				Radiator Cap Relief Pressure	Drains		Hoses		Fan - Generator Water Pump							
				Conventional (Pt.)	Automatic (Qt.) and Dipstick Location					Front	Rear				Inside Diameter	Number	Lower	Upper	Number Used	Angle of V	Nominal Length (Inches) Width					
Buick Special	G	4	13 1/4	2 1/4	6	E	No	2	14	6.50x13	22-22	12 N	170	CH	15	R	L	1 1/4	1	1	1	NS	43 1/2	38		
Buick LeSabre	G	4	13 1/4	No	12	E	No	6 1/2	20	7.60x15	22-22	12 N	170	CH	15	R	L	1 1/4	1	1	1	NS	54	38		
Buick Invicta, Electra	G	4	18 1/4	No	12	E	No	6 1/2	20	7.60x15	22-22	12 N	170	CH	15	R	L	1 1/4	1	1	1	NS	54	38		
Cadillac 60, 62	G	4	19 1/4	No	9	E	No	5	21	8.00x15	26-26	12 N	173-178	CH	12-15	R	L	1 1/4	1	1 1/4	1	1	37-40	57 1/2	33	
Cadillac 75	G	4	20 1/4	No	9	E	No	5	21	8.20x15	28-28	12 N	173-178	CH	12-15	R	L	1 1/4	1	1 1/4	1	1	37-40	57 1/2	33	
Chevrolet Superba	G	5	13	2 1/4	9 1/4	E	No	3	22	6.70x15	24-24	12 N	167 B	CH	4	L	R	1 1/4	1	1 1/4	1	1	38	45 1/2	37	
Chevrolet Corvair	RD	4	No	1 1/4	3	E	No	3 1/4	14	6.50x13	15-26	12 N	AA	AA	No	No	No	No	No	No	No	No	40	56	38	
Chevrolet 6	G	5	18	2	4 1/4	E	No	1	4	20 1/2	7.50x14	24-24	12 N	167-172	BY	13	L	L	1 1/4	1	1 1/4	1	1	37-44	40 1/2	38
Chevrolet V-8 283 cu. in.	G	4	18 1/4	2	4 1/4	E	No	1	4	20 1/2	7.50x14	24-24	12 N	167-172	BY	13	L	L	1 1/4	1	1 1/4	1	1	37-44	54 1/2	38
Chevrolet V-8 348 cu. in.	G	4	22	2 1/4	2	E	No	4	20 1/2	7.50x14	24-24	12 N	167-172	BY	13	L	L	1 1/4	1	1 1/4	1	1	37-44	56 1/2	38	
Chevrolet Corvette	D	5	16 1/4	2 1/4	4 1/4	E	No	4	16 1/2	6.70x15	24-24	12 N	167-172	BY	13	R	L	1 1/4	1	1 1/4	1	1	37-44	54 1/2	38	
Chrysler Newport, Windsor	D	5	17	4 1/4	11	E	No	4	23 1/2	8.00x14	24-22	12 N	180	CH	14	L	L	1 1/4-1 1/2	1	1 1/4	1	1	36	57 1/2	37	
Chrysler New Yorker	D	5	17	No	11	E	No	4	23 1/2	8.50x14	22-22	12 N	180	CH	14	R	L	1 1/4-1 1/2	1	1 1/4	1	1	36-42	57 1/2	37	
Comet	E	3 1/2	9 1/4	2 1/4	6 1/4	E	No	2 1/2	14	6.00x13	24-24	12 N	175-180	PP	14	R	R	1 1/4	1	1 1/4	1	1	36	33 1/2	38	
De Soto	D	5	17	4 1/4	11	E	No	4	23	8.00x14	24-22	12 N	180	CM	14	L	L	1 1/4	1	1 1/4	1	1	36	56 1/2	38	
Dodge Lancer	G	4	12	5	7	E	No	2	13	6.50x13	24-24	12 N	180	CH	14	L	R	1 1/4	1	1 1/4	1	1	36	55	38	
Dodge Dart 6	G	4	13	5	7	E	No	3 1/4	20 1/2	7.00x14	24-22	12 N	180	CH	14	L	R	1 1/4	1	1 1/4	1	1	36	57 1/2	38	
Dodge Dart V-8	G	5	21	5	9 1/4	E	No	4	20 1/2	7.50x14	24-22	12 N	180	CH	14	L	L	1 1/4	1	1 1/4	1	1	36	54	38	
Dodge Polara	G	5	17	4 1/4	11	E	No	4	20 1/2	8.00x14	24-22	12 N	180	CH	14	L	L	1 1/4-1 1/2	1	1 1/4	1	1	36	54	38	
Ford Falcon	G	3 1/2	9 1/4	2 1/4	6 1/4	E	No	2 1/2	14	6.00x13	24-24	12 N	175-180	PP	14	R	R	1 1/4	1	1 1/4	1	1	36	33 1/2	38	
Ford 6	G	4	16	3	9	E	No	3	4 1/2	20 1/2	7.50x14	24-24	12 N	175-180	PP	12-15	R	L	1 1/4	1	1 1/4	1	1	36	36	38
Ford V-8 292 cu. in.	G	5	20	3	9	E	No	4	4 1/2	20 1/2	7.50x14	24-24	12 N	175-180	PP	12-15	R	L	1 1/4	1	1 1/4	1	1	36	44 1/2	38
Ford V-8 352 cu. in.	G	5	20	3	10	E	No	4	4 1/2	20 1/2	7.50x14	24-24	12 N	175-180	PP	12-15	R	L	1 1/4	1	1 1/4	1	1	36	44 1/2	38
Ford V-8 390 cu. in.	G	5	20	3	10	E	No	4	4 1/2	20 1/2	7.50x14	24-24	12 N	175-180	PP	12-15	R	L	1 1/4	1	1 1/4	1	1	36	44 1/2	38
Imperial	D	5	17	No	11	E	No	3 1/4	23	8.20x15	24-24	12 N	180	CH	14	R	L	1 1/4-1 1/2	1	1 1/4	1	1	38-42	57 1/2	37	
Lincoln Continental	D	5	25	No	23	E	No	4 1/4	21	9.00x14	24-24	12 N	175-180	CH	12-15	L	L	1 1/4	1	1 1/4	1	2	36	41 1/2	60	
Mercury 6	D	4	16	3	10	E	No	3	4 1/2	20 1/2	7.50x14	24-24	12 N	175-180	CH	12-15	L	L	1 1/4	1	1 1/4	1	1	36	44 1/2	38
Mercury V-8 292 cu. in.	D	5	20	3	11 1/2	E	No	3	4 1/2	20 1/2	7.50x14	24-24	12 N	175-180	CH	12-15	L	L	1 1/4	1	1 1/4	1	2	36	43 1/2	38
Mercury V-8 352, 390 cu. in.	G	5	20	3 1/4	10	E	No	4	4 1/2	20 1/2	7.50x14	24-24	12 N	175-180	PP	12-15	L	L	1 1/4	1	1 1/4	1	1	36	44 1/2	38
Oldsmobile F85	G	4	13	2	4	E	No	2	16	6.50x13	22-22	12 N	167-172	BY	15	R	R	1 1/4	1	1 1/4	1	1	36	42 1/2	38	
Oldsmobile	G	4	20 1/4	2 1/4	9 1/4	E	No	5	20	8.00x14	22-20	12 N	167-172	BY	13	L	L	1 1/4	1	1 1/4	1	1	36	58 1/2	38	
Plymouth Valiant	G	4	12	5	7	E	No	2	13	6.50x13	24-24	12 N	180	CH	14	L	L	1 1/4	1	1 1/4	1	1	36	55	38	
Plymouth 6	G	4	13	5	7	E	No	3 1/4	20 1/2	7.00x14	24-24	12 N	180	CH	14	L	R	1 1/4	1	1 1/4	1	1	36	57 1/2	38	
Plymouth V-8 318 cu. in.	G	5	21	5	9 1/4	E	No	4	20 1/2	7.50x14	24-22	12 N	180	CH	14	L	L	1 1/4	1	1 1/4	1	1	36	57 1/2	38	
Plymouth V-8 361 and 383 cu. in.	G	5	17	4 1/4	9 1/4	E	No	4	20 1/2	7.50x14	24-22	12 N	180	CH	14	L	R	1 1/4	1	1 1/4	1	1	36	54	38	
Pontiac Tempest	G	4	12 1/4	3	2	EA	No	3	15 1/4	6.00x15	22-22	12 N	170	CH	12-15	L	R	1 1/4	1	1 1/4	1	1	36	49	38	
Pontiac	G	4	19 1/4	1 1/4	6	E	No	5 1/4	25 1/2	8.00x14	22-22	12 N	170	CH	14-17	C	L	L	1 1/4	1	1 1/4	1	1	36	59	38
Rambler American	G	4	12	1 1/4	6 1/4	E	1 1/4	3	20	6.00x15	24-24	12 N	177-183	CH	13	L	L	1 1/4	1	1 1/4	1	1	40	37	35	
Rambler Classic 6	G	4	10 1/4	1 1/4	10	E	2 1/4	3	20	6.50x15	24-24	12 N	177-183	CH	13	L	L	1 1/4	1	1 1/4	1	1	40	37	35	
Rambler Classic 8	G	4	20	2 1/4	10	E	3 1/4	4	20	7.50x14	24-24	12 N	177-183	CH	13	L	L	1 1/4	1	1 1/4	1	1	38	56 1/2	35	
Rambler Ambassador V-8	G	4	19	4	11	E	4	4	20	8.00x14	22-20	12 N	177-183	CH	13	L	L	1 1/4	1	1 1/4	1	1	38	56 1/2	35	
Studebaker 6	D	5	12	2 1/4	9	E	3 1/4	3	18	6.00x15	24-20	12 N	170	CH	13	L	L	1 1/4	1	1 1/4	1	1	38-40	40	38	
Studebaker V-8	D	5	18	3 1/4	9	E	3 1/4	3	18	6.50x15	24-20	12 N	170	CH	13	R	L	1 1/4	1	1 1/4	1	1	38-40	42	38	
Thunderbird	G	5	20	No	10	E	No	4 1/4	20	8.00x14	24-24	12 N	175-180	CH	12-15	L	L	1 1/4	1	1 1/4	1	2	36	44 1/2	60	

a—Invicta figure given, Electra uses 8.00x15 tires
f—Montclair figure given, Park Lane is 11 1/4 qt.
g—88 and Super 88 figures given, 98 uses 8.50 x 14 tires
b—OHV—opens at 177 deg.
BY—By-pass
C—Center
CH—Choke
D—Dashboard
E—Engine compartment
F—Under floor mat in driver's compartment
G—Grille
L—Left
L&R—Left and right
N—Negative
NS—Not specified
P—Positive
PP—Poppet type
R—Right

RD—Rear Deck
a—Station Wagons fully loaded 28
b—6 cyl. models 7.00 x 14
c—Convertible and Station Wagon size is 8.00x14
d—Hawk hood release located behind middle of front bumper
e—Rear tire pressure for Station Wagons 30
f—Station Wagons, 8.00x14
g—Station Wagons 26 lb. pressure all wheels
h—Station Wagons 21 gal.
i—8.20x15 WSW standard on Biarrits
j—24 front, 24 rear on 8.20x15
k—TorqueFlite capacity given. PowerFlite is 10 qt.
l—22 on Station Wagons
m—7.50x14 on 6 pass. Station Wagons
n—8.00x14 on 9 pass. Station Wagons
o—8.00x14 on 9 pass. Station Wagons
p—Under floor mat on Hawk models.

**—Hawk and Lark Model 44 axle capacity given. Lark Model 27 capacity is 2 1/2 pt.
j—On Station Wagons, 24 lb. empty, 28 lb. fully loaded
k—Top section under bumper
l—Right front of luggage compartment under plate
m—Lark V8 figure given. Hawk tire size is 6.70x15
n—Add 1 qt. if equipped with filter
o—Intake manifold thermostat figure given, block thermostat open at 137-142 deg.
p—Rear tire pressure for Station Wagons is 24, with full load operation, 28
q—Rear tire pressure for Station Wagons is 26
r—Station Wagon 19 gal.
s—3 speed transmission figure given, 4 speed is 1 1/4 pt.
t—Air thermostat bellows
u—Station Wagon 21 gal.
v—Station Wagon 6.50 x 13

[MORE SPECIFICATIONS, PAGE 98]

GRIZZLY

DD SILVERTIP LININGS RATED BEST IN TOUGH SCIENTIFIC CONTROL LABORATORIES, INC., TESTS



"Torture Tests" on the road and in the lab prove DD Silvertip linings meet the highest quality standards required for top driving safety.



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Brake Division
168 North Michigan Avenue,
Chicago 1, Illinois

Mechanical Data on 1961 Passenger Cars

TUNE-UP DATA..IGNITION..WHEEL ALIGNMENT

continued from page 96

MAKE AND MODEL	IGNITION							WHEEL ALIGNMENT					
	Spark Plug Gap	Breaker Gap	Cam Angle	Centr. Advance Start (RPM) (Crankshaft)	Centr. Advance (Max. Deg. @ R1/2) (Crankshaft)	Vacuum Advance Starts (In. Mercury)	Vacuum Advance (Max. Deg. @ In. Mercury)	Timing		Caster Angle (Degrees)	Camber Angle (Degrees)	Toe-in (Inches)	Steering Axis Inclination (Degrees)
								Points Open Degrees	Timing Mark				
Buick Special.....	033	015 30		450-800	28@3700	5-7	17 1/2@16	5B	D	-1 1/4...±1/2	0...±3/4	1/4...1/4	7 1/2
Buick Le Sabre, Invicta, Electra.....	033	015 30		550-900	22@3800	8-10	17 1/2@18	12B	D	-1...±1/2	3/4...±3/4	1/4...1/4	9 1/2
Cadillac 60, 62, 75.....	035	016 30		400	7-9@2000	8-10	10 1/2-12@15-20	5B	D	-1/2...-1 1/2	††	3/4...1/4	6
Checker Superba 6 L-Head.....	029	019 39		550	18@3350	No	No	4B	D	+2	+1/2...+1 1/2	1/4...1/4	7
Checker Superba 6 OHV.....	032	019 39		500	33@2400	0-10	10@15	3 1/2B	D	+2	+1/2...+1 1/2	1/4...1/4	7
Chevrolet Corvair.....	035	019 32-34		400	32@3600	6	23@15 1/2	4B	P	+4...+5	0...+1	1/4...1/4	7
Chevrolet 6.....	035	019 28-35		600	26@3500	6	22@15 1/2	5B	P	-1/2...±1/2	+1/2...±1/2	1/4...1/4	7 1/2
Chevrolet V-8 283 cu. in.....	035	019 26-33		600	28@3750	8	15@15 1/2	4B	D	-1/2...±1/2	+1/2...±1/2	1/4...1/4	7 1/2
Chevrolet V-8 348 cu. in.....	035	019 26-33		700	24@4600	8	15@15 1/2	8B	D	-1/2...±1/2	+1/2...±1/2	1/4...1/4	7 1/2
Chevrolet Corvette.....	035	019 26-33		600	28@3700	8	15@15 1/2	4B	D	+2...±1/2	0...±1/2	0...1/8	3 1/2
Chrysler Newport, Windsor.....	035	017 27-32		620-980	17-21@4600	7 1/2-9	16 1/2-22@15	10B	D	Δ	Δ	3/4...1/2	6 1/2
Chrysler New Yorker.....	035	017 27-32		620-980	17-21@4300	7 1/2-9	16 1/2-22@15	10B	D	+3/4...±1/2	Δ	3/4...1/2	6 1/2
Comet.....	034	025 35-38		No	No	0	27-29.5@5 1/2	4B†	D	+1 1/2	+3/4...+1/2	1/4...1/4	7
De Soto.....	035	014 27-32		500-900	14-18@4400	7 1/2-9	16 1/2-22@15	10B	D	Δ	⊕	3/4...1/2	6 1/2
Dodge Lancer.....	035	017 40-45		650-950	23-27@3850	4 1/2-7 1/2	19-25@14.5	2 1/2B	D	Δ	ΔΔ	3/4...1/2	7 1/2
Dodge Dart 6.....	035	017 40-45		570-900	21-25@4400	4 1/2-6 1/2	15 1/2-20 1/2@12	2 1/2B	D	Δ	Δ	3/4...1/2	6 1/2
Dodge Dart V-8.....	035	014 27-32		670-1130†	16-20@4600†	6 1/2-9 1/2	24-30@17	10B	D	Δ	Δ	3/4...1/2	6 1/2
Dodge Polara.....	035	014 27-32		500-900	20-24@4100	6-8 1/2	21-26@16	10B	D	Δ	Δ	3/4...1/2	6 1/2
Ford Falcon.....	034	025 35-38		No	No	0	27-29.5@5 1/2	4B†	D	+1 1/2	+3/4...±1/2	1/4...1/4	7
Ford 6.....	034	025 35-38		No	No	1/4	26@6	4B†	D	-1/2...+1/2	+1/4...+1	1/4...1/4	6 1/2
Ford V-8 292 cu. in.....	034	015 26-28 1/2		1000‡	20.5-23.5@4000	7	19-25@20	3B†	D	-1/2...+1/2	+1/4...+1	1/4...1/4	6 1/2
Ford V-8 352, 390 cu. in.....	034	015 26-28 1/2		1000‡	23-26@4000‡	5 1/2	19-25@17 1/2	3B†	D	-1/2...+1/2	+1/4...+1	1/4...1/4	6 1/2
Imperial.....	035	014 27-32		620-980	17-21@4300	7 1/2-9	16 1/2-22@15	10B	D	+3/4...±1/2	Δ	3/4...1/2	6 1/2
Lincoln Continental.....	034	015 26-28 1/2		700	30@4000	6	22@18	6B	D	0...-1 1/2°	0...+3/4°	1/4...1/4	7°
Mercury 6.....	034	025 35-38		No	No	1/4	26@6	4†	D	-1/2...+1/2	+1/4...+1	1/4...1/4	6 1/2
Mercury V-8 292 cu. in.....	034	015 26-28 1/2		1000‡	20.5-23.5@4000	7	19-25@20	3†	D	-1/2...+1/2	+1/4...+1	1/4...1/4	6 1/2
Mercury V-8 352, 390 cu. in.....	034	015 26-28 1/2		1000‡	23-26@4000‡	5 1/2	19-25@17 1/2	3B†	D	-1/2...+1/2	+1/4...+1	1/4...1/4	6 1/2
Oldsmobile F85.....	040	016 28-32		800	26@4200	5-7	25 1/2@16	5B	D	-1/2...-1 1/2	0...+3/4	1/4...1/4	7 1/2
Oldsmobile.....	030	016 28-32		800	22-26@4400	8-10	20 1/2-23 1/2@21	5B	D	0...-1	-1/4...+1/4	0...1/4	10
Plymouth Valiant.....	035	017 40-45		650-950	23@3850	4 1/2-7 1/2	19-25@14 1/2	2 1/2B	D	Δ	Δ	3/4...1/2	7 1/2
Plymouth 6.....	035	020 40-45		500-900	21-25@4400	4 1/2-6 1/2	15 1/2-20 1/2@12	2 1/2B	D	Δ	Δ	3/4...1/2	6 1/2
Plymouth V-8 318 cu. in.....	035	017 27-32		540-860*	21-25@4600‡	6 1/2-9 1/2	13-19@13	5B†	D	Δ	Δ	3/4...1/2	6 1/2
Plymouth V-8 361 and 383 cu. in.....	035	017 27-32		550-850	22-26@4100	7 1/2-9 1/2	19-25@16	10††	D	⊕⊕	Δ	3/4...1/2	6 1/2
Pontiac Tempest.....	033	013 73-77		650	24-28@2250	0	20@13-15	6B	P	-2 1/2...-1 1/2	-3/4...+1/4	0...1/4	6 1/2
Pontiac.....	035	016 28-32		700*	22@3600*	6-8*	20@13-15*	6B	P	-1 1/2...±1/2	+1/4...±1/4	0...1/4	4 1/2*
Rambler American.....	035	020 36-42		850	12-16@4000	4-6	9-13@11	3B	D	0...+1/2	-1/4...+1/4	1/4...1/4	8 1/2
Rambler American Custom.....	033	016 28-35		1000	22@4200	6	22@16 1/2	8B 00	D	0...+1/2	-1/4...+1/4	1/4...1/4	8 1/2
Rambler Classic 6.....	035	016 28-35		1000	20-24@4200	5-7	22@16 1/2	†	D	0...+1/2	-1/4...+1/4	1/4...1/4	6 1/2
Rambler Classic V-8.....	035	014 28-32		600	34-38@3800	5 1/2-7 1/2	20@15	XX	D	0...+1/2	-1/4...+1/4	1/4...1/4	6 1/2
Rambler Ambassador V-8.....	035	014 28-32		600	34-38@3800	5-7	20@15	XX	D	0...+1/2	-1/4...+1/4	1/4...1/4	6 1/2
Studebaker 6.....	033	017 37-41		800	24@1800	8	14@13	2B	D	+1/4...-1 1/4*	0...+10	1/4...1/4	6*
Studebaker V-8.....	033	016 28-32		600	24@2250	8	16@13	4B	D	+1/4...-1 1/4*	0...+10	1/4...1/4	6*
Thunderbird.....	034	015 26-28 1/2		550	21.5-24.5@4000	9	12-18@17	3B†	D	-1/2...+1/2	+1/4...+1	1/4...1/4	7

H—Before top center
D—Vibration damper
F—Flywheel
P—Pulley

□—Lincoln Continental steering axis inclination taken at 3/4 deg. camber; caster must agree within 1/2 deg. for right and left sides; camber must agree within 1/4 deg. for right and left sides.

*—Steering axis inclination specified at 0 deg. camber

Δ—Figures apply to cars with manual transmission. 390 cu. in. is 550.

ΔΔ—390 cu. in. is 9

†—390 cu. in. 21.5-24.5 @ 4000 centr. advance, 12-18 @ 17 vacuum advance

Δ—Caster Manual steering -1/2 ± 1/2 deg. Power steering +1/4 ± 1/2 deg.

▽—Camber Left +1/2 ± 1/2 deg.

Right +1/4 ± 1/4 deg.

⊕—Camber Left +1/4 ± 1/4 deg. (Prefer +3/4)

Right +1/4 ± 1/4 deg. (Prefer +1/4)

*—Lark figure given. Hawk is -1 1/2 to -3 deg. Maximum variation between wheels should not exceed 1/2 deg. on Lark, 3/4 deg. on Hawk.

†—Figures given for cars with automatic transmissions. Different figures are used with manual transmission cars.

††—Camber +3/4 to -3/4 left

+1/4 to -1/4 right

*—670-1130 with auto. trans.

Δ—16-20@4600 with auto. trans.

††—361 cu. in. figure given

7.5 deg. on 383 cu. in.

⊕—Caster Manual steering -1/2 ± 1/2 deg.

Power steering -3/4 ± 1/2 deg.

Δ—Figures given for engines with 8.6-to-1 compression ratio. Engines with higher compression ratios have different data.

▽—At 1 deg. camber

⊕—+1/2 deg. caster and 0 deg. camber desired. 1/4 in. toe-in preferred on V-8

▽—Driver's side 1/2 deg. more camber

†—With automatic transmission—10

ΔΔ—Camber 1/2 deg. ± 1/4 deg. left

1/4 deg. ± 1/4 deg. right

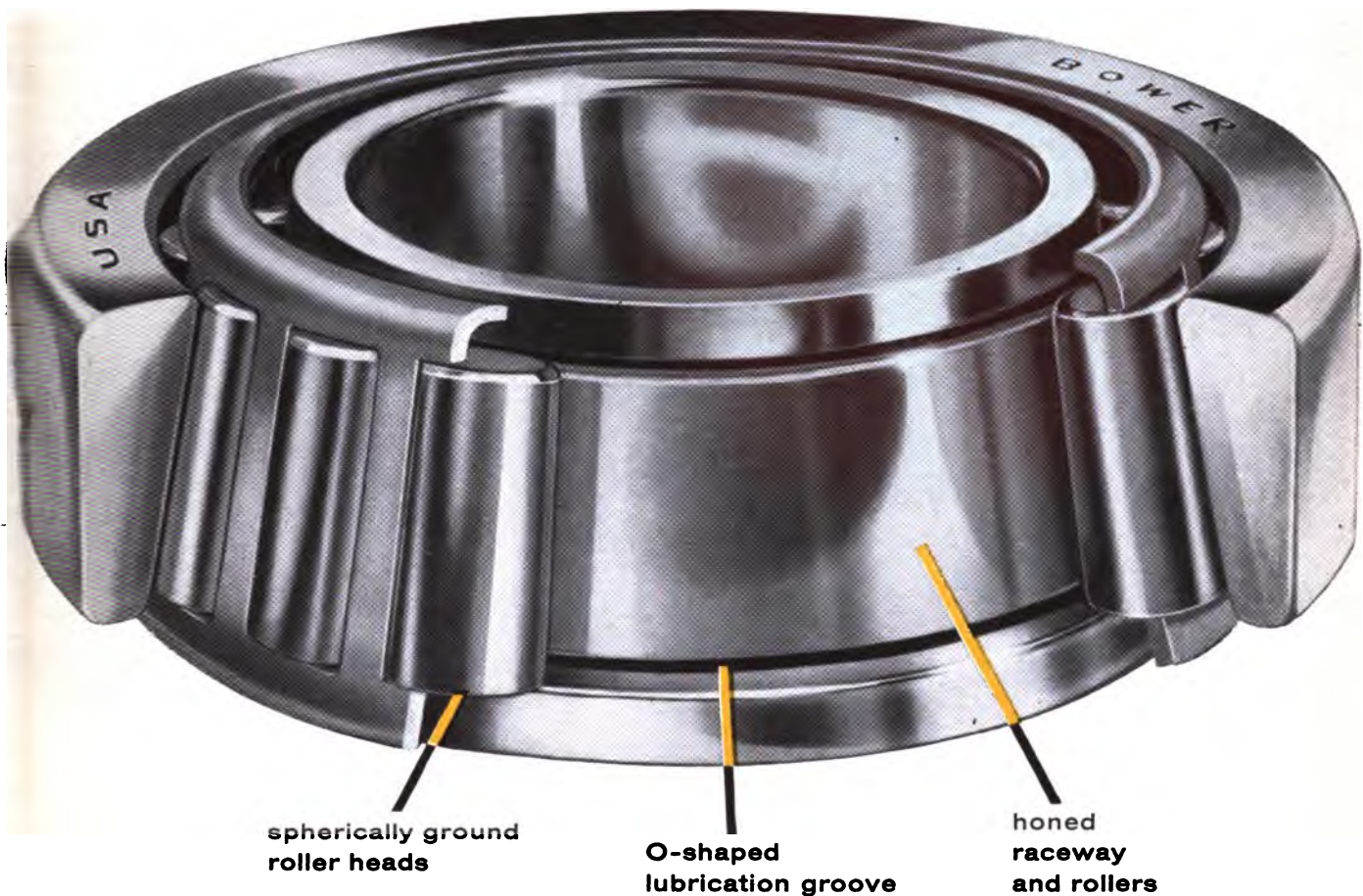
00—Figure given is for manual trans. with regular fuel. Manual trans. premium fuel is 12 deg.

B. Auto. trans. figures are 10 deg. B for regular, 14 deg. B premium

▽▽—8B for regular fuel, 11B for premium fuel

XX—Timing manual trans.—TDC regular fuel, 3B premium fuel. Timing auto. trans.—5B regular fuel, 8B premium fuel

[MORE SPECIFICATIONS, PAGE 102]



These Bower features give you something to hang your hat on

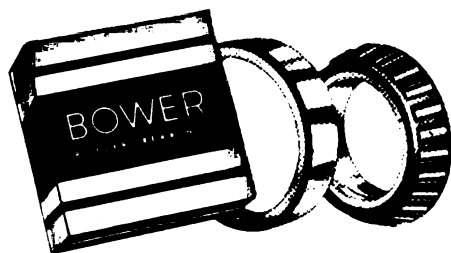
When you sell Bower tapered roller bearings, you can sell *genuine* design features. These features not only help the bearings do a better job, but keep your customers satisfied—and coming back.

All Bower tapered bearings are *Spher-O-Honed*. Roller heads are spherically ground for perfect contact between roller and flange raceway. Raceways are honed to insure the smoothest possible surface. And a large O-shaped lubrication groove

at the base of the cone flange further improves performance.

In Bower straight roller bearings, all rollers are ground with a crown to distribute the load more evenly along their full lengths, eliminating bearing-killing fatigue. Bearings last longer.

These are reasons why it'll pay you to sell the Bower line. Moreover, you get fast delivery when you need it. Call your jobber today.



BOWER ROLLER BEARINGS

FEDERAL-MOGUL SERVICE

DIVISION OF FEDERAL-MOGUL-BOWER BEARINGS, INC. • DETROIT 13, MICH.

Mechanical Data on 1961 Passenger Cars

ENGINE.. VALVES.. BRAKES.. EXHAUST

continued from page 98

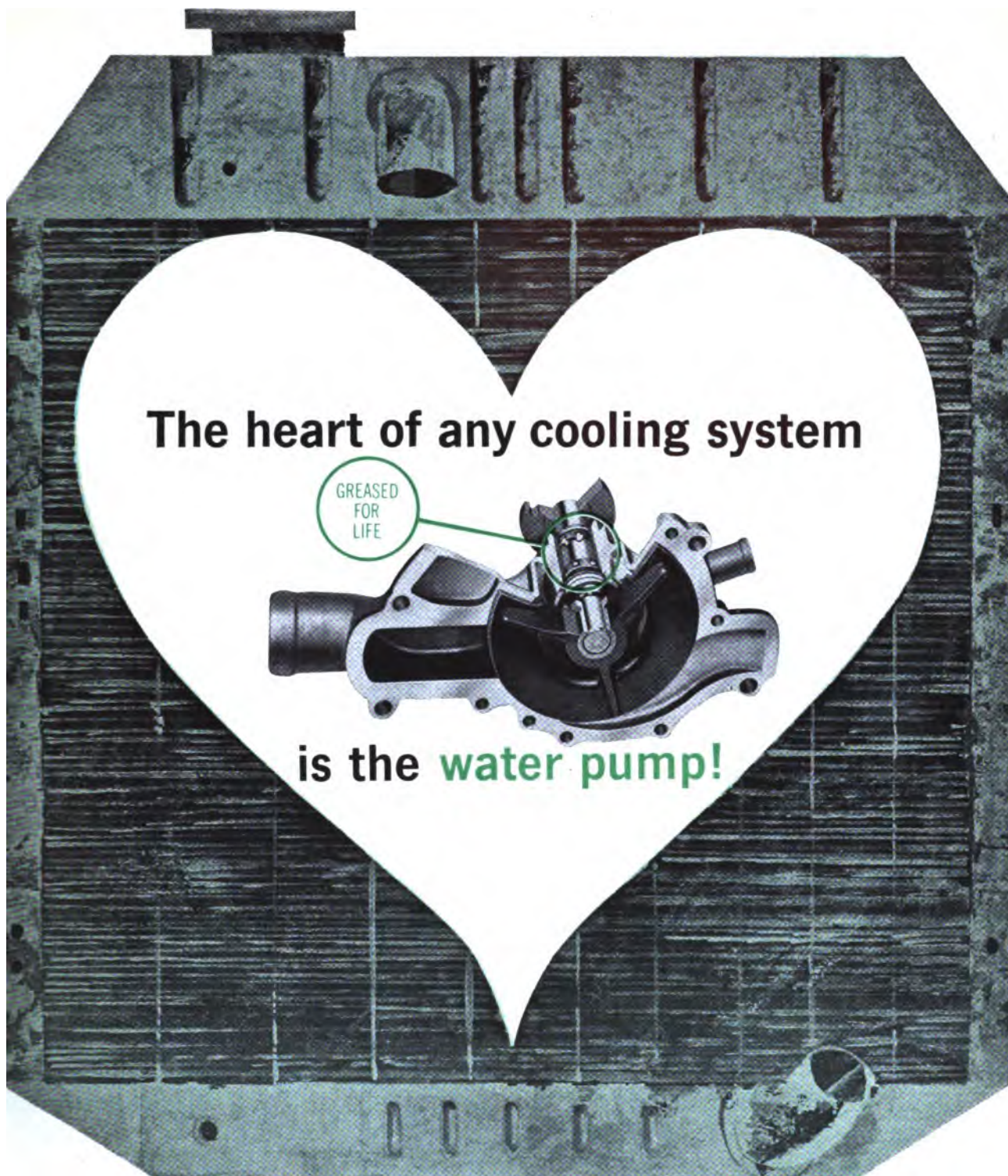
MAKE AND MODEL	ENGINE			VALVES												EXHAUST		BRAKE			
	Firing Order	Idle Speed		Tappet Clearance†		Stem to Guide Clearance‡		Seat Angle		Lift		Timing				Muffler Inlet (In.)	Tailpipe (In.)		Type	Drum Diameter	Shoe Clearance Adjustment
		Standard Transmission	Automatic Transmission	Intake	Exhaust	Intake	Exhaust	Intake	Exhaust	Intake	Exhaust	Intake		Exhaust							
												Opens Degrees BTG	Closes Degrees ABC	Opens Degrees BBC	Closes Degrees ATC						
Buick Special.....	18436572	525	525	HYD	HYD	1/2-2	1 1/2-3	45	45	383	383	29	71	67	33	1 1/2	1 1/2	S	9 1/2	0.05	
Buick LeSabre.....	12784563*	525	525	No	No	1-3 1/2	3-5	45	45	443	439	31	77	69	41	2 1/4	2 1/4	S	12	0.05	
Buick Invicta, Electra.....	12784563*	525	525	No	No	1-3 1/2	3-5	45	45	439	441	33	77	75	44	2 1/4	2 1/4	S	12	0.05	
Cadillac.....	18436572	No	480	HYD	HYD	5-2.5	1-2.5	44	44	451	451	39	105	85	59	2 1/4	2 1/4	S	12	0.00-0.10	
Checker Superba 6 L-Head.....	153624	375	425	.014	.014	1-2-3.0	3.2-5.0	30	44	284	284	2	42	42	8	2	1 1/2	S	11	1 1/2	
Checker Superba 6 OHV.....	153624	375	425	.017	.023	1-2-3.0	3.2-5.0	30	44	409	409	17	54	62	9	2	1 1/2	S	11	1 1/2	
Chevrolet Corvair.....	145236*	500	500	HYD	HYD	1-2.7	1.5-3.2	45	45	314	344	43	93	87	69	1 1/2	1 1/2	S	9	0	
Chevrolet 6.....	153624	475	425	HYD	HYD	1-2.7	1-2.7	31	46	328	328	16	48	46	17	2	1 1/2	S	11	0	
Chevrolet V-8 283 cu. in.....	18436572	475	450	HYD	HYD	1-2.7	1.5-3.2	46	46	334	334	18	54	52	20	2	1 1/2	S	11	0	
Chevrolet V-8 348 cu. in.....	18436572	475	450	HYD	HYD	1-2.7	2.5-4.2	46	46	401	411	18 1/2	67 1/2	68 1/2	25 1/2	2	1 1/2	D	11	0	
Chevrolet Corvette.....	18436572	475	450	HYD	HYD	1-2.7	1.5-3.2	46	46	399	399	12 1/2	57 1/2	54 1/2	15 1/2	2	1 1/2	D	11	0	
Chrysler Newport, Windsor.....	18436572	500	500	HYD	HYD	1-3	2-4	45	45	390	390	15	57	57	15	2 1/2	2	S	11	0	
Chrysler New Yorker.....	18436572	500	500	HYD	HYD	1-3	2-4	45	45	390	390	15	57	57	15	2 1/2	2	S	12	0	
Comet.....	153624	500-550	475-525	16H	16H	1-2.5	2-3.5	†	†	344	344	15	37	45	7	1 1/2	1 1/2	S	9	0.11	
De Soto.....	18436572	No	500	HYD	HYD	1-3	2-4	45	45	389	389	15	57	57	15	2 1/2	2	S	11	0	
Dodge Lancer.....	153624	550	500	10H	20H	1-3	2-4	45	45	371	364	8	44	48	TDC	1 1/2	1 1/2	S	9	0	
Dodge Dart 6.....	153624	550	500	10H	20H	1-3	2-4	45	45	371	364	8	44	48	TDC	1 1/2	1 1/2	S	11	0	
Dodge Dart V-8.....	18436572	500	500	10H	18H	1-3	2-4	45	45	380	386	17	47	55	9	2 1/2	2	S	11	0	
Dodge Polara.....	18436572	500	500	No	No	1-3	2-4	45	45	390	390	15	57	57	15	2 1/2	2	S	11	0	
Ford Falcon.....	153624	500-550	475-525	16H	16H	1-2.5	2-3.5	†	†	344	344	15	37	45	7	1 1/2	1 1/2	S	9	0.11	
Ford 6.....	153624	500-525	475-500	19H	19H	1-2.4	2.8-4.2	45	45	369	369	17	53	61	9	2	2	S	11.03 e	0	
Ford V-8 292 cu. in.....	15486372	500-525	450-475	19H	19H	1-2.4	2.8-4.2	45	45	359	357	12	54	58	8	2	2	S	11.03 e	0	
Ford V-8 352 cu. in.....	15426378	500-525	450-475	HYD	HYD	1-2.4	2.8-4.2	45	45	408	408	22	68	68	22	2	2	D	11.03 e	0	
Ford V-8 390 cu. in.....	15426378	575-600	450-475	HYD	HYD	1-2.4	2.8-4.2	45	45	408	408	26	64	67	23	2	2	D	11.03 e	0	
Imperial.....	18436572	No	500	HYD	HYD	1-3	2-4	45	45	390	390	15	57	57	15	2	1 1/2	D	12	0	
Lincoln Continental.....	15426378	No	450-475	HYD	HYD	1-2	2-3	†	†	408	408	22	68	63	27	1 1/2	1 1/2	D	11.03 e	0	
Mercury 6.....	153624	500-525	475-500	19H	19H	1-2.4	2.8-4.2	45	45	341	339	23	59	71	10	2 1/2	2	S	11	0.11 e	
Mercury V-8 292 cu. in.....	15486372	500-525	450-475	19H	19H	1-2.4	2.8-4.2	45	45	341	339	12	54	58	8	2 1/2	2	S	11	0.11 e	
Mercury V-8 352, 390 cu. in.....	15426378	500-525	450-475	HYD	HYD	1-2.4	2.8-4.2	45	45	371	369	22	68	68	22	2	2	S†	11	0.10	
Oldsmobile F85.....	18436572	550	500	HYD	HYD	1-2.5	1.5-3	45	45	384	384	22	58	60	20	1 1/2	1 1/2	S	9.5	0.15	
Oldsmobile.....	18736542	460	460	HYD	HYD	1-2.5	1.5-3	45	45	435	437	11	50	54	16	2 1/4	2 1/4	S	11	0.15	
Plymouth Valiant.....	153624	550	550	10H	20H	1-3	2-4	47	47	371	364	8	44	48	TDC	1 1/2	1 1/2	S	9	0	
Plymouth 6.....	153624	550	550	10H	20H	1-3	2-4	47	47	375	368	8	44	48	TDC	1 1/2	1 1/2	S	11	0	
Plymouth V-8 318 cu. in.....	18436572	500	500	10H	18H	1-3	2-4	45	45	370	368	17	47	55	9	2 1/2	2	S	11	0	
Plymouth V-8 361 and 383 cu. in.....	18436572	500	500	HYD	HYD	1-3	2-4	45	45	430	430	24	64	64	20	2 1/2	2	D	11	0	
Pontiac Tempest.....	1342	680-700	580-600	HYD	HYD	2.1-3.8	2.6-4.3	30	45	330	330	14	58	48	24	1 1/2	1 1/2	S	9	0.05	
Pontiac V-8 Std. Trans.....	18436572	480-500	480-500	HYD	HYD	2.1-3.8	2.6-4.3	30	45	330	330	14	58	48	24	2 1/2	2	S	11	0.15	
Pontiac V-8 Hydra-Matic.....	18436572	No	480-500	HYD	HYD	2.1-3.8	2.6-4.3	30	45	400	400	30	63	77	25	2 1/2	2	S	11	0.15	
Rambler American.....	153624	550	475	16C	18C	2-3.5	2-3.5	45	45	340	340	10	58	49	19	1 1/2	1 1/2	S	9	0.15	
Rambler American Custom.....	153624	550	475	12H	16H	1-2.4	2.8-4.2	45	45	408	408	26	64	67	23	2	1 1/2	S	9	0.15	
Rambler Classic 6.....	153624	550	475	HYD	HYD	2-3.5	2.5-4	45	45	372	369	12 1/2	51 1/2	53 1/2	10 1/2	2	1 1/2	S	9	0.15	
Rambler Classic 8.....	18436572	550	475	12H	14H	1-3	1-3	30	45	375	375	12 1/2	51 1/2	53 1/2	10 1/2	1 1/2	1 1/2	S	10	0.15	
Rambler Ambassador V8.....	18436572	550	475	HYD	HYD	1-3	1-3	30	45	375	375	12 1/2	51 1/2	53 1/2	10 1/2	1 1/2	1 1/2	S	10	0.15	
Studebaker 6.....	153624	550	550	24H	24H	1.5-3.5	1.5-3.5	45	45	375	375	15	50 1/2	55 1/2	10	1 1/2	1 1/2	S	10*	0.07	
Studebaker V-8.....	18436572	550	550	24H	24H	1.5-3.5	1.5-3.5	45	45	375	375	11	54 1/2	51 1/2	14	2	1 1/2	S4	11*	0.07	
Thunderbird.....	15426378	No	475-500	HYD	HYD	1-2.4	2.8-4.2	45	45	408	408	26	64	67	23	2	2	D	11	e	

ABC—After bottom center
ATC—After top center
BTG—Before top center
BBC—Before bottom center
HYD—Hydraulic valve lifters
D—Dual
C—Cold
H—Hot
S—Single
e—Self adjusting
TDC—Top dead center

p—Sport Fury has 2 in. muffler inlet, dual exhaust
†—Figures given in thousandths of an inch
•—Left bank odd
•—Right bank odd
•—Right 1-2-3-4, Left 5-6-7-8
•—No major adjustment required
•—390 cu. in. is 575-600
•—Single on 352 cu. in., dual on 390 cu. in.
†—Adjust to slight drag. Back off 8 notches.

■—Adjust to heavy drag. Back off 10 notches front, 12 notches rear
*—Adjust to slight drag. Back off 7 notches
•—Intake 45-45 1/2, exhaust 45-45 1/2
•—Top clearance given, bottom is 2.5-4.5
•—Rear drum 1 in. smaller
†—45 1/2-45 1/2
†—Adjust to heavy drag. Back off 12 notches on front brakes, 16 notches rear brakes
•—Series 1300—manual transmission tappet clearance is—intake 6H, exhaust 18H
•—Dual on Hawk

Passenger car sales data and specifications appeared in July MOTOR and will be listed again in September



Did you know that today some passenger car water pumps run as fast as 4,000 RPMs, and pump up to 50 gallons of water (and sometimes rust, grit, etc.) per minute? During the normal life of a car, this pump may handle millions of gallons of coolant. To do this, a pump must be efficient. Be sure the pumps you sell and install are built to do this mammoth job. Install Toledo Steel "greased for life" water pumps that will outlive all others.

TOLEDO STEEL PRODUCTS

Division of Thompson Ramo Wooldridge Inc.

6402 CEDAR AVENUE • CLEVELAND 2, OHIO

WORLD'S FINEST PARTS... WORLD'S FINEST SERVICE



WHY TOLEDO STEEL PUMPS OUTLIVE ALL OTHERS

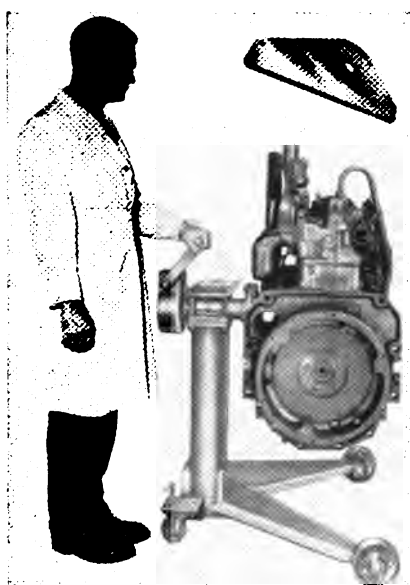
- Better design and manufacturing.
- Finest materials and components.
- "Greased for life" bearing and shaft assembly.
- Every pump is factory tested.



New Products

...TO USE ... TO SELL

OTC Engine Stand



Owatonna Tool Co., 332 Cedar St., Owatonna, Minn., offers the No. 1700 Engine Positioning Stand, weighing 135 lb. and said to handle engines weighing up to 1,200 lb. The company says the stand allows the engine to be worked on from any position and permits engine rotation through a full 360 deg. circle. The engine attaches to the stand through an adapter bracket. The stand may be bolted to the floor or mounted on casters.

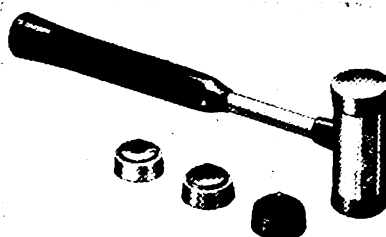
Carter Super Zip-Kits



Needle valve and seat assemblies, incorporating a soft flexible collar built into the seat to absorb dirt

particles and permit needle seating, have been introduced by Carter Carburetor Div. of ACF Industries, Inc., 2840 N. Spring Ave., St. Louis 7, Mo. The new assemblies, designed to prevent flooding at the needle valve, have been added to the company's line of clean-out kits, which will be known as Super Zip-Kits.

Armstrong Soft Hammers



Armstrong Bros. Tool Co., 5200 W. Armstrong Ave., Chicago 46, Ill., has available hammers of 1¼, 1½ and 1¾ in. head diameters designed for use with interchangeable soft tips. The nylon tips are color-coded to indicate varying degrees of softness and screw into the hammer head. The tips are reportedly resistant to oil, gasoline and acids, will not chip and are offered in three grades of hardness.

Snap-on Ball Joint Sockets



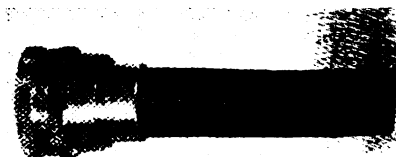
Snap-on Tools Corp., 8034 28th Ave., Kenosha, Wis., has available three ¾ in. drive sockets designed for servicing 1961 Buick and Oldsmobile ball joints. Model S-8179 is a 1½ in. hex socket for Oldsmobile F-85 and Buick Special joints. Model S-9835 for upper joints on larger Buick models is a 1⅞ in. hex socket, and Model S-9836 socket for lower Buick joints has a 2⅛ in. hex opening.

Bear Alignment Rack



An alignment rack for installation on concrete or wood flooring on lower or upper floors has been developed by Bear Manufacturing Co., 2016 5th Ave., Rock Island, Ill. Known as the Power Rack, the unit has air-operated hinged runways which function as ramp and runway and which are adjustable to desired widths. Having an overall length of 16 ft. 10 in., the rack does not require special footings or foundations and permits all four wheels to be suspended for tire rotation or brake service, according to the company.

Heckethorn Hose Nozzles



The Flex-Tip water hose nozzle for use either with ¾ in. garden hose thread or ¼ in. iron pipe thread is available from Heckethorn Manufacturing and Supply Co., Dyersburg, Tenn. Made of grease-resistant neoprene hose and machined brass rod, the nozzle has an automatic cut-off feature which allows water to flow when the nozzle is flexed and stops flow as the nozzle is released. The company says no adjustments, springs, levers or packing are required.

[CONTINUED ON PAGE 106]

NOW YOU CAN REALLY SELL SERVICE

TUNG-SOL THE ONLY COMPLETE LIGHTING LINE

For All Heavy Duty and Emergency
Vehicle Use In the New Yellow and
Black Box.

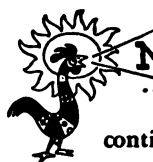
For Normal Passenger Car Use In
the Familiar Red and Blue Box.



makes Dollars and Sense . . . to handle Tung-Sol
y Duty and Standard headlamps, miniature lamps and
ers—the industry's only complete lighting service line.
is your opportunity to boost your profits from lamp sales
gh greater service reliability. One solid source, one high
ty and 100% coverage of your requirements are only a
f the benefits you'll receive with Tung-Sol—the profitable

lighting line. Install Tung-Sol, the line specified by leading
independent manufacturers. See your Tung-Sol supplier for
details. Tung-Sol Electric Inc., Newark 4, New Jersey.

 **TUNG-SOL®**
HEADLAMPS • MINIATURE LAMPS • FLASHERS



New Products

...TO USE...TO SELL

continued from page 104

American Hydraulics Jacks

American Hydraulics Co., 2020 S. 54th St., West Allis, Wis., offers four floor-jack models ranging in capacity from 1¼ tons to 4 tons. Features are said to include saddle sizes of 6 in. on the 1¼ ton Model



FJ-125 and 7½ in. on the larger models; lifting heights ranging from 18½ in. to 26 in., safety overload valves and an over-all length range of 68½ in. to 98¼ in. The Model FJ-125 and 1½ ton Model

FJ-151 have removable handles for compact storage or service truck use.

Weaver Wash Unit



The Wash-All for cleaning cars, trucks, buses, engines and assemblies, and service area floors and walls has been developed by Weaver Manufacturing Div. of Dura Corp., 2100 S. 9th St., Springfield, Ill. The unit can be mounted on any standard 55 gal. drum and has only one moving part. Built of brass and plated steel, it is equipped with wide and narrow spray nozzles and designed to operate under air pressure of 150-175 lb. per sq. in.

Gumout Service Kits



Carburetor Clean-Out Kit No. 7880 for on-the-engine carburetor cleaning is offered by Gumout Div. of Pennsylvania Refining Co., 2686 Lisbon Rd., Cleveland 4, Ohio. The kits, which are packed 12 to a carton, are said to contain all items needed for forced-flow cleaning on the engine and include step-by-step instructions.

[CONTINUED ON PAGE 115]

MOTOR, August 1961



Here's the LOWEST COST complete "DISPENSING COMBINATION" on the market

DL \$3⁹⁵ SPECIAL

includes

- DL LIQUID HAND CLEANER (Two One-Half Gallons)
- PLASTIC DISPENSER
- WALL BRACKET

Liquid DL is a product of DL Products Inc., makers of famous DL Handi-Cleaner, the original, waterless cream type hand cleanser, for more than 25 years.

DL PRODUCTS, INC.
Buffalo 4, New York

For full details write us Dept. M-8-4

LIQUID DL HANDI-CLEANER

Insures "HEALTHY-CLEAN HANDS"

And here's why:

Cleans hands cleaner, faster! DL's exclusive deepdown cleansing action dissolves grease, grime, dirt and actually "lifts it out" removes tenacious stains other hand cleaners can't touch.

SAFER — INDEPENDENT LABORATORY TESTS CERTIFY DL IS A NON-TOXIC PRODUCT.

Contains both LANOLIN and HEXACHLOROPHENE — conditions hands as it cleans, guards against dermatitis and infections.

Complete — ready to use.

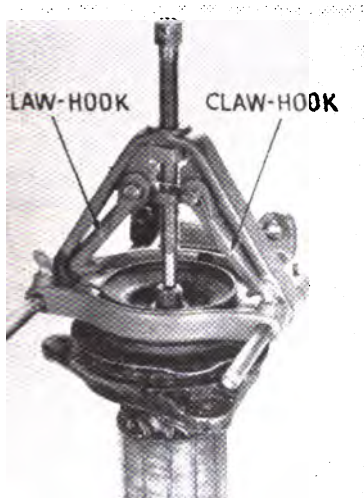
Mount bracket on wall, bench, pump island, etc., insert one-half gallon container, thumb screw locks container securely in place, remove metal cap, insert dispenser . . . and you have a complete hand cleaning unit at one low price!



CANADIAN OFFICES: 236 NORSEMAN ST., TORONTO 18, ONTARIO

New Products
...TO USE...TO SELL
continued from page 106

Rimac Pulley Puller



Wick-McIlwaine, Inc., 16 Hudson St., New York 13, N.Y., has introduced the Rimac Universal Pulley Puller for removal of all passenger car, truck and bus generator pulleys, including alternator pulleys and pressed-on Autolite types. The puller jaws have an opening range of 2 in. to 4 3/4 in. The puller can be vertically mounted on a stand or used horizontally on the bench, it is said.

McQuay-Norris Bearings



The MI-1000 copper-alloy bearing for heavy-duty engine use has been developed by McQuay-Norris Manufacturing Co., 2320 Marconi St., St. Louis 10, Mo. The steel bearing has a sintered copper-alloy lining covered with a .001-inch babbitt thickness, with a tin coating for run-in protection. The company reports the bearing position combines the anti-friction qualities of babbitt with strength characteristics of copper-lead alloy.

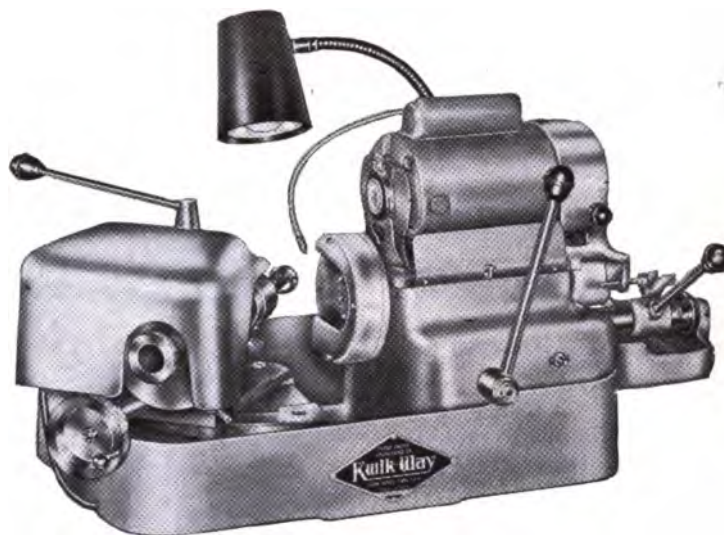
Marquette Swenches



Marquette Div. of Curtiss-Wright Corp., 1145 Galewood Dr., Cleveland, Ohio, offers two models of manual impact wrenches which do not require air or electrical feed lines. Known as the Swench, the impact wrenches are available in a 1/2 in. square drive Model 500 rated at a maximum torque force of 250 lb.-ft., and in a 5/8 in. drive Model 625 rated at 500 lb.-ft. Both models are furnished with a nut runner, locking pins for impact sockets and a metal case. The com-

[CONTINUED ON PAGE 116]

the NEW Kwik-Way model VS



presents a NEW concept in VALVE FACING EFFICIENCY

The new Kwik-Way Model VS is more than an improved model, it is a new concept in valve facing. It combines design stability with operating ease and greatly increased efficiency. The surface grinding mechanism is now an integral part of the one-piece casting. This eliminates the possibility of misalignment. Solid ways now absorb the grinding pressure. The new 5" diameter grinding wheel handles more valve sizes and all new alloys with ease.

New power — a 1/2-hp capacitor type, heavy duty, constant speed motor supplies vibrationless floating power for the grinder spindle only. Individual motors for chuck and coolant pump. There are countless other new features about the new Model VS which make valve jobs easier and more profitable. Mail coupon now for the new illustrated brochure on the Kwik-Way Model VS . . . the only new concept in valve facing.



CEDAR RAPIDS ENGINEERING COMPANY
907 17th St. N.E., Cedar Rapids, Iowa

Please send Model VS brochure to:

Name

Address

City State



New Products

...TO USE...TO SELL

continued from page 115

pany reports the impact force is supplied by a built-in spring force.

Lucas Battery Filler



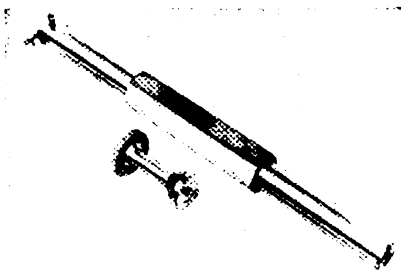
A battery filler said to control the exact level of electrolyte fill is offered by Lucas Electrical Services, Inc., 501-509 W. 42d St., N.Y. 36, N.Y. According to company reports, the filler automatically cuts off its electrolyte flow as the correct level is reached in the battery, and remains closed during removal by means of a control valve. The filler is made of polyethylene.

Fox Alternator Protector



Fox Products Co., 4720 N. 18th St., Philadelphia 41, Pa., offers Model 120 alternator protector, which can be installed on most battery chargers through one connection. Designed to prevent reversed polarity during battery charging on alternator-equipped vehicles, the unit has a signal light to indicate reverse polarity, overcharging, or short circuits.

Ammco Adapter Set



Small drum adapter set No. 5775 has been developed by Ammco Tools, Inc., 2100 Commonwealth

Ave., North Chicago, Ill., for use with Ammco Model 5000 brake drum lathes. The set has adapters for grinding or turning of smaller drums down to 6 in. diameter sizes.

UMS Battery Tester

The Delco-tronic 12-volt battery checker for instant checking of battery voltage is offered by United Motors Service Div. of General Motors Corp., General Motors Bldg., Detroit 2, Mich. The fully transis-

Recognize these problems caused by looseness? (1) Tire is worn smooth by loose ball-joints which fail to hold wheel in proper alignment. (2) Driver tries to return car from shoulder back



Prolong tire life with MOOG Ball-Joints

Ordinary ball-joints may seem to fit snug under the weight of the car. But when car is in motion this weight is often removed, and even new ball-joints are often wobbly. What to do? Replace 'em with Moog Adjust-

able Ball-Joints! Looseness is eliminated with the twist of an Allen wrench. Tires last longer because wheels stay in better alignment at all times...even when car hits bump! Pay for themselves in longer tire life.

For safer steering: MOOG Ball-Bearing Idler Arm Kits

"Steering Stabilizer"... "The Poor Man's Power Steering"... by any name here's the answer to thread-on-thread or rubber-loaded steering connections which may work loose or bind. Moog Ball-Bearing Idler

Arm Kit converts steering to smooth, reliable ball-bearing action for safe, positive steering control at all speeds...with or without Power Steering. Looseness is eliminated! Immediate improvement in the feel of the wheel.



torized tester requires no adjustments, and is pocket size. A green light indicates acceptable battery voltage, while a yellow light indi-

cates further light-load tests are needed, the company states.

Niehoff Ignition Tester

Model T-45 Ignition Efficiency Tester for checking coil output, primary and secondary circuit resistance and openings, condensers, alternator diodes, field windings and distributor caps has been introduced by C. E. Niehoff and Co., 4925 W. Lawrence Ave., Chicago 30, Ill. Contained in a rigid plas-



tic case, the tester is furnished with leads, distributor cap adapter, high voltage pliers and instructions.

Prestone Parts Cleaner



Union Carbide Consumer Products Co., Div. of Union Carbide Corp., 270 Park Ave., New York 17, N.Y., has available Prestone Metal Parts Cleaner No. 1 and No. 2 in 6 gal. containers which hold 4 gal. of cleaner and a cleaning basket. The basket can be used with the lid in place to reduce vapor loss and spillage and control odors. The basket can be raised or lowered with a handle on the lid to prevent splashing.

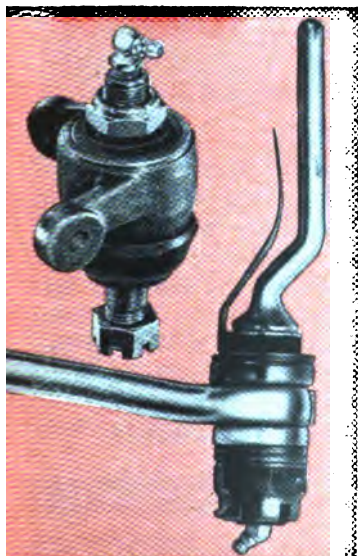
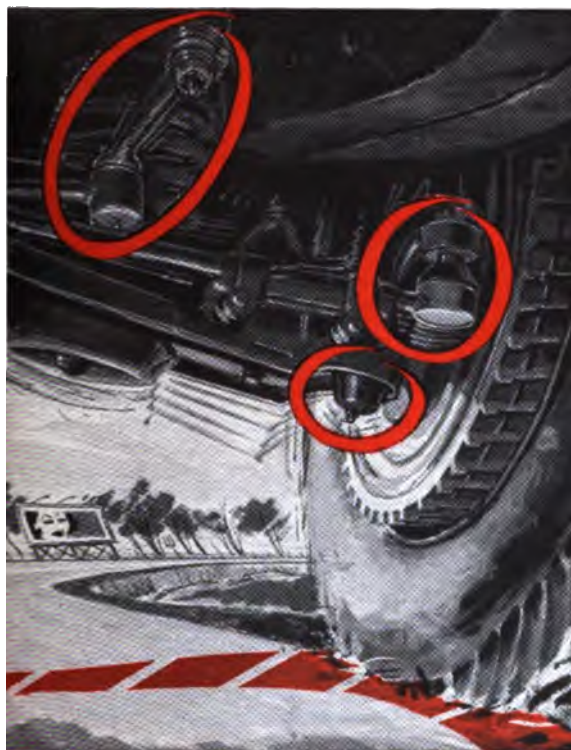
Guaranteed Marine Switches



Guaranteed Parts Co., Inc., Seneca Falls, N.Y., offers its line of all-brass marine switches for operating boat starters, horns, lights and sirens. The switches are produced in push-button, push-pull, toggle and key-operated models and have chrome-plated brass mountings.

[CONTINUED ON PAGE 118]

to highway, but play in steering causes momentary lag in steering response. When looseness is taken up, car lurches into path of oncoming car. (3) High speed shimmy.



WHY SETTLE FOR A "CRUTCH" when a permanent "cure" is available? Moog parts cost no more than many gadgets which offer only temporary solutions to alignment and steering problems. And Moog's full coverage means that most Moog parts, including those shown here, are available for nearly all cars. So there's no reason to settle for a "crutch." Insist on the "cure"... genuine Moog parts, choice of the alignment specialist!



For almost every popular car

MOOG INDUSTRIES, INC., ST. LOUIS 33, MO.



GRAYMILLS *TRANS-CLENE

TRANS-CLENE cuts deep-down varnish and carbon deposits from every corner of intricate valve bodies, pumps, and other hard-to-clean transmission parts. The heaviest oxidized coatings soak loose and easily brush or rinse away. Loosens gaskets for faster, simpler removal. Safe on aluminum. Available in special 16 gal. size with dip basket and cover. Also in 6, 30 & 55 gal. drums. Send for catalog.

TRY TRANS-CLENE. YOU'LL SEE THE DIFFERENCE IN ITS CLEANING POWER OVER ORDINARY SOLVENTS. YOU CAN GET IT FROM YOUR JOBBER.

WRITE FOR FREE BOOKLET / "Cleaning procedures for Automatic Transmission parts"

Provides step by step cleaning procedures that insure quality jobs and cuts down on costly comebacks.



GRAYMILLS CORPORATION

3757 N. LINCOLN AVE. CHICAGO 13, ILL.



New Products

...TO USE...TO SELL

continued from page 117

Federal-Mogul Seal Tool



A rear-wheel seal-installation tool kit consisting of a metal handle and 12 plastic adapters for use on popular passenger cars and light trucks has been introduced by Federal-Mogul Service, 11031 Shoemaker Ave., Detroit 13, Mich. The company reports the tools can also be used as a sales aid in showing customers the difference between old and new seals as they are placed on the adapters.

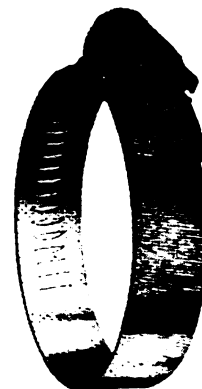
Miracle Power Supplement



Miracle Power Products Corp., 1101 Belt Line St., Cleveland 9, Ohio, offers its Miracle Power Tune-up, Break-in Oil, an oil supplement for adding to the crankcase during regular oil changes. The company says the supplement relieves sticky valves and lifters and

leaves a graphite film on engine surfaces for protection against scuffing and scoring during new engine break-in.

Wittek Hose Clamps



Wittek Manufacturing Co., 4311 W. 24th Place, Chicago 23, Ill., offers its new Sure-Tite Series H worm-drive hose clamp. Clamps include a $\frac{3}{8}$ in. slotted head for wrench or screwdriver tightening. Made of heavy-gauge stainless steel, the clamps may be used for radiator, heater, vacuum or air vent hoses and are available in diameter sizes ranging from $\frac{7}{16}$ in. to 7 in.

Wix Filter Tester

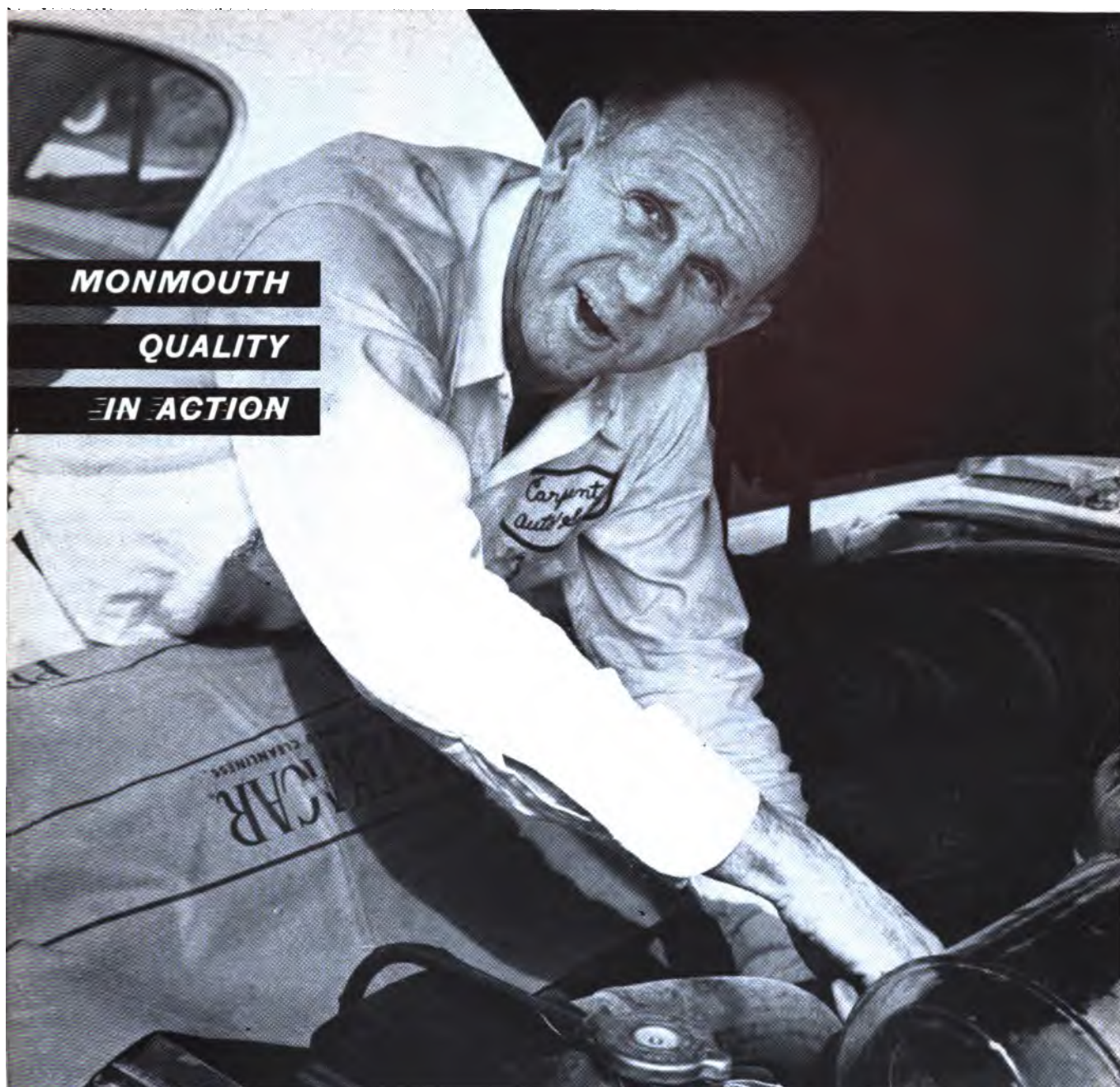


Wix Corp., Gastonia, N.C., has available an air filter tester consisting of a high intensity light and shielded hood for customers to examine the condition of their air filter cartridges. The flashlight battery-powered tester is reportedly compact enough to be used by the owner while he sits in the car.

Ditzler Body Filler

A body filler which utilizes color-coding to indicate hardening speed is offered by Ditzler Color Div. of

[CONTINUED ON PAGE 120]



"I always use Monmouth in my racing cars . . .

. . . because my engines turn over at some pretty high rpm's and need a bearing that can take punishment. With Monmouth I race all season without bearing problems."

Mr. Carpenter has been racing modified stock cars for over ten years. In his customers' cars, as well as his own, he installs Monmouth Bearings exclusively—because he knows he can *always* depend on Monmouth's high quality.

If you want performance that pays off, use Monmouth Bearings in all your engine rebuilds. For instant service, call on your NAPA jobber. He can give you complete Monmouth service on all your engine bearing requirements.



says J. T. Carpenter
Carpenter's Auto Service
Waco, Texas

MONMOUTH Engine Bearings

CLEVITE SERVICE: Cleveland Graphite Bronze • Division of Clevite Corporation • Cleveland 3, Ohio





New Products

...TO USE...TO SELL

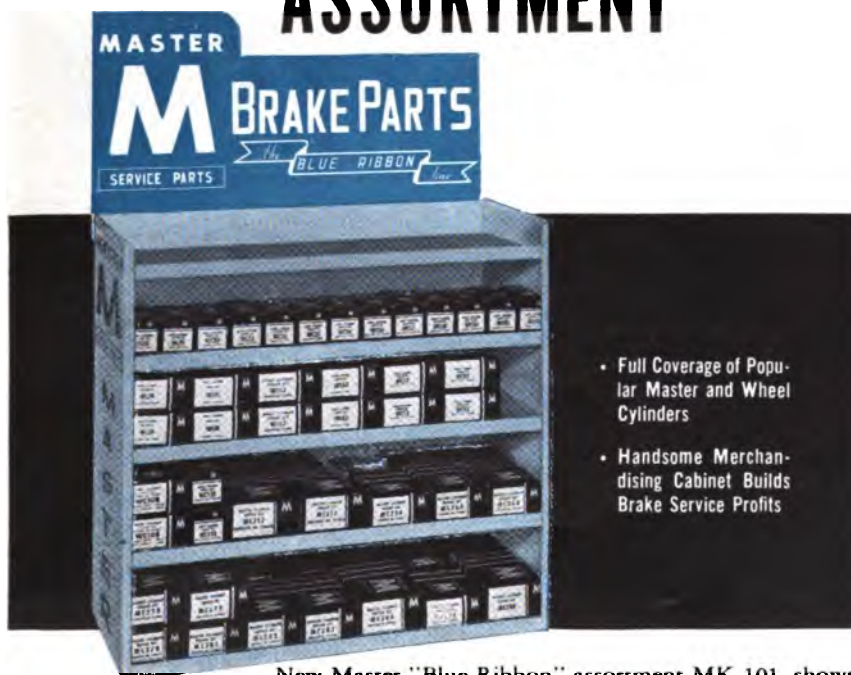
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Pittsburgh Plate Glass Co., 8000 W. Chicago Blvd., Detroit 4, Mich. Called DX-666 Ditz-Flex Body Filler, the filler has a color and hardness selector on the container lid, showing the colors of the various degrees of hardness as a guide for mixing the cream hardener. Ac-



ording to the company, the filler will not bubble or pinhole during baking and can be worked with a minimum of grinding and dust.

NEW BRAKE CYLINDER REPAIR KIT ASSORTMENT



MASTER
M
SERVICE PARTS

New Master "Blue Ribbon" assortment MK-101, shown above, handles 92.8% of wheel cylinder replacement repairs and 76% of master cylinder repair needs. Cylinder repair kits are complete, include all necessary quality replacement parts; packaged kits come in sturdy, colorful steel cabinet. Handy cabinet is 23 inches wide, 9½ inches deep, can be set on shelf or hung in repair area.

MK-101 contains 44 fast-selling wheel cylinders and 14 top-turnover master cylinders. Ask your Master Jobber for full details on new MK-101 Brake Cylinder Repair Kit Assortment.

MASTER PARTS DIVISION

Airtex Products, Fairfield, Illinois

Fuel Pumps • Water Pumps • Blue Ribbon Hydraulic Brake Cylinders and Parts • Front End Suspension Parts • Tie Rod Ends and Drag Links

Martin Filters



Martin Filter Corp., 191 Talmadge Rd., Edison, N.J., has developed a new line of air, oil and gas filters for domestic and foreign passenger cars and trucks. Air filters are said to be flameproof. The company further says its fuel filters, with over 70 sq. in. filtering area, prevent passage of water as well as dirt into carburetors.

Gunk Carburetor Cleaner



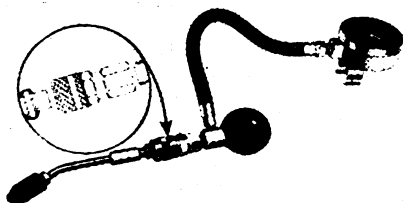
Gunk Laboratories, Inc., 630 N. Harlem Ave., River Forest, Ill., offers a carburetor cleaner, known as C-C, which is reportedly odorless and will not burn hands. Available in 5 gal. containers with or without cleaning baskets or 15, 30 and 55 gal. drums, the cleaner is formulated to remove varnish, tars and grease, according to the company.

Westinghouse Bulbs

A new line of automotive bulbs and headlamps designed to meet performance requirements of trucks, emergency vehicles, off-highway and farm equipment, buses and passenger cars, has been introduced by

Westinghouse Electric Corp., Bloomfield, N.J. According to the maker, the heavy-duty line provides longer, trouble-free service life under abnormal conditions of shock and vibration.

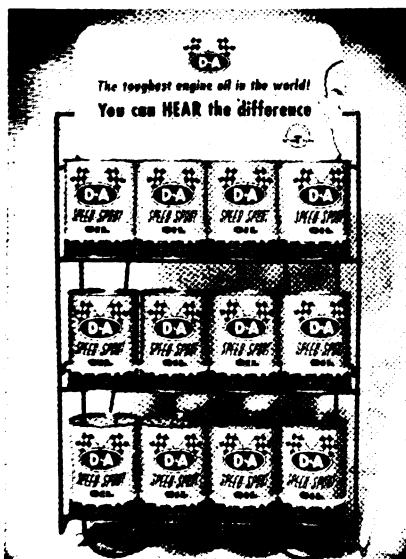
Auto-Test Tester



A compression tester with 300 lb. gauge markings, quick-change coupling and three coupling plugs for fast interchanging is offered by Auto-Test, Inc., 600 S. Michigan Ave., Chicago 5, Ill. Known as the Mark II Compress-Aid Kit, the tester also has shatterproof lens, positive catch-and-release coupling action, and flexible hose to make it easy to reach plug holes.

**New
Business Getters**
Displays • Signs • Packages

D-A Display Rack



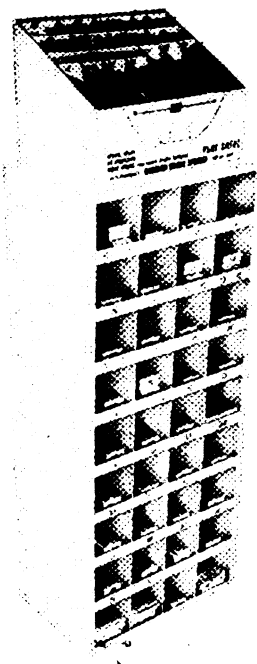
Racing Div. of D-A Lubricant Co., Inc., 1332 W. 29th St., Indianapolis, Ind., has available a display and merchandising rack made of heavy-gauge wire. The rack has carrying grips to permit indoor or outdoor use and holds 12 one-qt. cans.

Grizzly Wheel Card



A steering-wheel card explaining to customers the advantages of Grizzly brake linings and instructions on correct break-in of new linings is offered by Grizzly Brake Div., 168 N. Michigan Ave., Chicago 1, Ill. The card also outlines procedures to be followed in obtaining maximum lining life and performance.

Dorman Spring Display



A 36-compartment all-steel merchandiser measuring 42 in. high, 17½ in. wide and 12 in. deep and containing an assortment of 228 brake shoe return springs in 41 sizes is offered by Dorman Products, Inc., 5757 Mariemont Ave., Cincinnati 27, Ohio. Each spring size is packaged in sets of four units. A clear plastic-covered display cabinet is mounted on top of the merchandiser.

Pacco Regulator Display

A display consisting of six Flowtrol-r fuel pressure regulators in

[CONTINUED ON PAGE 122]

NOW

**... GREATER
WELDABILITY**

**at lower
cost**

with

FOX-ARC



Now you can arc weld, spot weld, even braze, solder or charge a battery from one FOX-ARC power source. This compact, portable unit not only costs less to own but costs less to operate as well.

The FOX-ARC Spotweld Gun, operating from outlets on the welder, or from separate power supply, is lightweight and easy to use. It spot welds from one side of the job... requires no back-up electrode. Eliminates guesswork... is easy and safe to use.

There is no limit to the welding jobs that FOX-ARC can do quickly, efficiently, safely and at the lowest possible cost.

For complete information or a demonstration, call your local Automotive Distributor or write:

FOX PRODUCTS COMPANY
4752 N. 18th St., Phila. 41, Pa.

FOX-ARC includes a complete range of welders, welding tools and accessories.

FOX

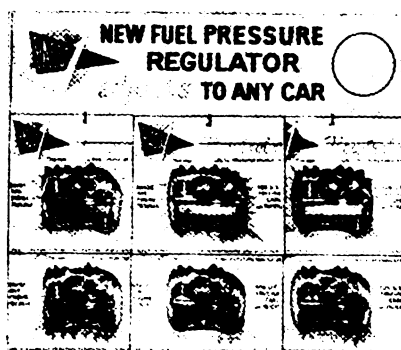
**METHODS AND EQUIPMENT
FOR IMPROVED
AUTOMOTIVE WELDING**

New Business Getters

Displays • Signs • Packages

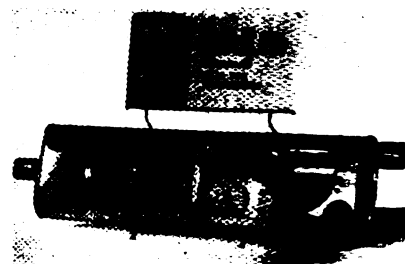
continued from page 121

dividually packaged in transparent display packages mounted on a poster board is offered by Precision Automotive Components Co., Manchester, Mo. The poster board



measures 17 $\frac{5}{8}$ by 14 $\frac{5}{8}$ in. and may be mounted on a counter or wall.

Merit Muffler Cutaway



A cutaway muffler display showing the internal parts of Merit mufflers is available from Merit Muffler Div., 619 Smith St., Toledo 1, Ohio. Also offered is a counter display rack for mounting of the cutaway in view of customers. Construction features are called out by circular labels on the cutaway model, which may be used by wholesalers for inside or outside display.

Thermoid Promotion



Thermoid Div. of H. K. Porter Co., Inc., 601 Grant St., Pittsburgh 19, Pa., announces a promotion of pre-stretched fan belts and Redi-Curv radiator hoses. The company offers window display banners and a sponge rubber-backed neoprene fender cover with center ridges for holding tools or parts.

Stant Cap Merchandiser



Pressure cap assortment SP-605 consisting of 18 Lev-R-Vent safety pressure caps is offered by Stant
[CONTINUED ON PAGE 126]

TORQUE WRENCHES



This Mark® Guarantees:

1. Guaranteed accurate forever within 2% of maximum scale reading.
2. The only wrench that permits accurate use of adapter & extensions. Patented pivoted handle permits concentrated load position—the only way to obtain accuracy with adapters and extensions.
3. Rugged construction. Can be stored in a tool box with other tools.
4. Easy to use as any socket wrench.
5. Signalling models and direct reading styles to choose from.
6. A complete range to choose from to meet every service application.

*These are the same torque wrenches used and recommended by leading engine and equipment builders.



Valve and Clutch Spring Tester

Test new as well as used springs. Match sets of valve springs for top engine performance. Check clutch springs to prolong clutch life.

FREE

Torque Specification Book for over 130 makes and more than 1200 models of automobiles, (U.S. and foreign) trucks, tractors, outboards, motorcycles, diesel, aircraft, marine and small air cooled engines. Spark plug, wheel bearing, valve spring data and many helpful torque tips sent free upon request, write Dept. 604



PA **STURTEVANT CO**
ADDISON [QUALITY] ILL. NOIS

97 Holley Original Equipment Carburetion and Ignition Items have been copied . . .



Background: Original Portrait of Mona Lisa by Leonardo da Vinci, 1452-1519

***. . . but no copy ever quite matches
the ORIGINAL!***

Holley makes only authentic *originals*—and any original is hard to copy. Every Holley carburetion or ignition component you sell is as much an *original* as the part it replaces. Both are designed, engineered and manufactured to the same *original equipment* specifications, and must pass the same performance tests and rigid quality inspection. So, when you replace carburetion or ignition parts, it will pay you to use “Holley Originals”. With copies there may be a question—with Holley you’re *sure* of customer satisfaction.



11955 E. Nine Mile Road
Warren, Michigan

Original Equipment
Manufacturers of
Carburetion and Ignition
Products for Over 55 Years

®Registered Trademark

AC FIRE-RING **put Power Prof**



**There's an AC Fire-Ring Spark Plug for every
American car and truck—and popular foreign make**

SPARK PLUGS

in your tune-ups!

Give your engine tune-up customers the power they pay for by installing AC Fire-Ring Spark Plugs. AC design gives owners satisfying performance to encourage repeat sales and increase profits.

As an experienced dealer, you know a good tune-up begins with top-quality spark plugs and includes all parts essential to proper engine conditioning for long-lasting, maximum power. The best spark plugs for all cars are AC Fire-Rings—your best selection for tune-up power, customer satisfaction and greater profit.

AC SPARK PLUG  THE ELECTRONICS DIVISION OF GENERAL MOTORS



**THEY'RE BEST
FOR ALL CARS**

As an AC dealer—give your customers these superior AC Spark Plug features:



Superior Hot Tip Design—provides self-cleaning action by heating fast to burn away fouling, power-robbing deposits as they form.



Superior Sealing Design—offers copper-glass internal seal and pressure-formed external seals to prevent overheating.



Superior Electrode Design—operates cooler, reduces material burn-away and need for frequent gap adjustment.

It pays to be an AC dealer! ● AC provides a continuing program of research and product improvement ● AC provides a wide accessory line of the highest quality products ● AC provides better profit margins through faster product turnover.

Get the selling edge with  Profit AChievers!

FREE!

FOR DEALERS WHO SELL FAMOUS FRAM "WEAR-GUARD" FILTERS

120 GIFT CERTIFICATES
(Free with 120 Doz. Cartridges)



WESTINGHOUSE 19" PORTABLE TV
—Today's most portable portable is just one of the many nationally advertised gifts you can get **ABSOLUTELY FREE** in FRAM'S MILLION \$\$\$ GIVE-AWAY. Gifts are your reward for selling Fram "Wear-Guard" Filters—today's fastest moving filters—proved to trap up to 40% more dirt than any other filter tested.

STOCK UP ON FRAM FILTERS GET FABULOUS FREE GIFTS!

With every 24 Fram Filters you buy, your supplier gives you 2 Free Fram Gift Certificates. Redeem them immediately or save them for gifts of higher value.

CLIP COUPON AND MAIL TODAY!

FRAM CORPORATION
DEPT. MG
Providence 16, R. I.

I want to get my share of Fram's Million \$\$\$ Giveaway. Please send me catalog of free gifts.

NAME _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

MY SUPPLIER'S NAME IS _____

New Business Getters

Displays • Signs • Packages

continued from page 122

Manufacturing Co., Inc., 1620 Columbia Ave., Connersville, Ind. Included with the assortment is an add-on display rack for mounting on the MU-600 wall merchandiser. The company reports the assortment and add-on unit enable a dealer having an MU-600 merchandiser to display the entire Stant line of radiator, gasoline, oil filler and locking caps.

Campbell Chain Promotion



A promotion campaign to stimulate tire chain replacement or repairs has been announced by Campbell Chain Co., York, Pa. The company reports the summer-long campaign will be supported by window banners urging motorists to have free chain inspections. The banners have pressure-sensitive tape for easy mounting.

Houser Core Plug Card



Houser Engineering and Manufacturing, Inc., Bluffton, Ind., offers the No. 744 and No. 752 core-

hole plug display cards, made of rigid pressed-board with sales messages. No. 744 assortment consists of 12 plugs made up of three each of 2, 1 5/8 and 1 1/2 in. sizes and one each of 1 3/16, 1 1/4, 1 3/8 in. sizes. The No. 752 card has six plugs made up of one plug of each size.

NEW LITERATURE

Booklets • Catalogs • Manuals

FUEL PUMP BOOKLET—This eight-page illustrated booklet contains diagrams and explanations of fuel pump construction features, causes of pump failure, and reference material to help diagnose fuel pump troubles. Cross section views show six common causes of pump failure. Other illustrations show difference between single and dual-type pumps. Free. American Motor Products Co., Fond du Lac, Wis.

IGNITION PARTS CATALOG—This 68-page illustrated catalog, IG-12, lists coils, condensers, point sets, voltage regulators, switches and other electrical items. Included is a 16-page listing of ignition part numbers for all U.S. passenger cars through 1961 models. Standard Motor Products, Inc., 37-18 Northern Blvd., Long Island City 1, N.Y.

MUFFLER CATALOG—This 80-page 1961 dealer catalog includes scale drawings of U.S. and foreign exhaust systems to assist dealers in ordering exhaust system parts. AP Parts Corp., 1801 Spielbusch Ave., Toledo 1, Ohio.

ADVERTISING HANDBOOK—This 92-page handbook, "The ABCs of Automotive Advertising," contains suggestions and information for car and truck dealers on conducting advertising programs, and how to increase effectiveness of advertising on local levels. Also included are an explanation of advertising agency functions, methods in media selection and a glossary of advertising terms. Life Magazine, Time and Life Bldg., 9 Rockefeller Plaza, N.Y. 20, N.Y.

[CONTINUED ON PAGE 128]

there's still
time... take
advantage

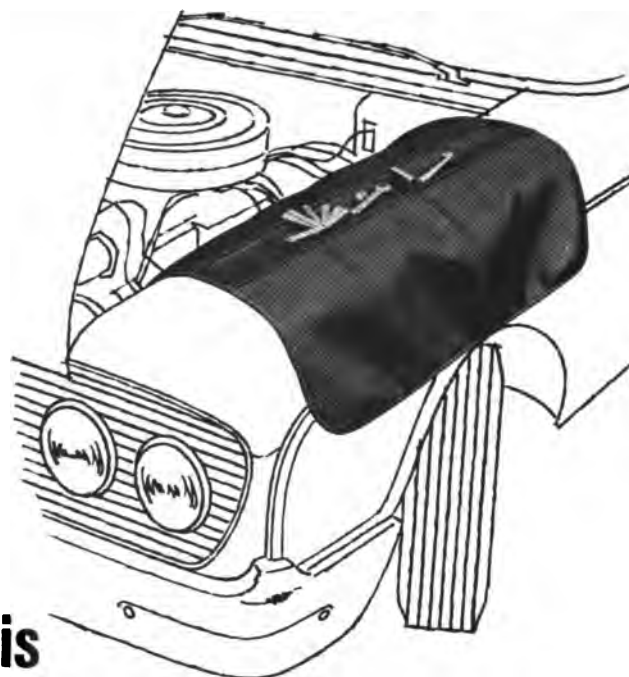
if **THERMOID**

BIG



**FENDER
COVER
DEAL**

this
THERMOID FENDER COVER,
a \$6.45 value, can be yours



HERE'S THE DEAL

Buy 12 Thermoid Big T Quality
Fan Belts or Redi-Curv Radiator Hose
in any combination
(6-6, 9-3, 10-2, 12-0 etc.)

\$18.36*

This entitles you to a \$6.45 Quality
Big T Fender Cover for only

\$ 2.98

One set Window Banners

FREE

One Fan Belt (V-29, V-123, V-180)
or one Redi-Curv Radiator Hose
(RC-505, RC-509, RC-526)

FREE

*Approximate

TOTAL \$21.34

You sell the **FREE** Big **T** Fan Belt or Radiator Hose and
you more than pay for the Fender Cover.

Nothing could be easier—Buy a minimum stock of hose
and belts *now*, and completely equip your shop with these
sturdy, high-quality fender covers.

Call your local distributor or write us direct.

DEAL CLOSES SEPTEMBER 30, 1961



THERMOID DIVISION
H. K. PORTER COMPANY, INC.
200 WHITEHEAD ROAD, TRENTON 6, N.J.

NEW LITERATURE

Booklets • Catalogs • Manuals

continued from page 126

FOREIGN CAR SERVICE BOOKLET—A 16-page booklet describing service tips, model designations, and service tool requirements of foreign makes. Contains information on various precautions

to be observed, and descriptive information on foreign car carburetors, electrical systems and service nomenclature. The Weatherhead Co., 300 E. 131st St., Cleveland 8, Ohio.

SERVICE BULLETINS—Five bulletins and brochures on rubber lubricants and chemicals. Group consists of "Importance of Proper Lubrication in Seating Tubeless Tire Beads," No. 101, "Freeze-Proof Weatherstripping to Complete Winter Change-Overs," No. 102,

"Proper Functioning of Manifold Heat Control Valves," No. 103. Also offered are a four-page color folder on lubricants and a 12-page illustrated booklet, "Tubeless Tire Servicing." American Grease Stick Co., Muskegon, Mich.

MUFFLER CATALOG—A 152-page catalog of all U.S. and foreign passenger car and truck muffler applications, including scale drawings of exhaust systems and numerical listings of over 1,700 muffler and pipe part numbers. Also includes car factory muffler numbers. Merit Muffler Div., 619 Smith St., Toledo 1, Ohio.

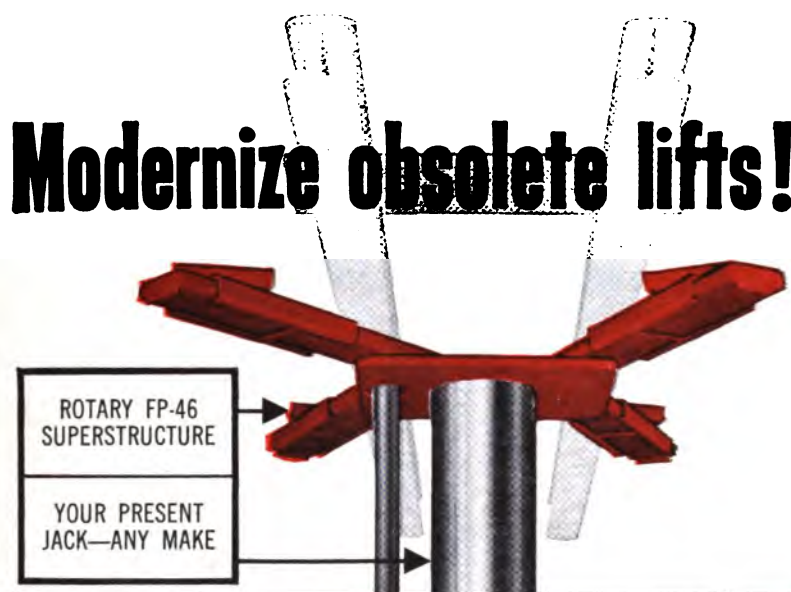
BRAKE FOLDER—This four-page jobber salesman's folder contains brake lining tips on merchandising, sales aids, an outline of profit potentials from brake service and sales information on brake linings. Grizzly Brake Div., 168 N. Michigan Ave., Chicago, Ill.

SHOCK ABSORBER BOOKLET—A descriptive booklet showing comparative shock absorbers in cut-away cross section views. The cross sections are printed in color on transparent plastic sheets to show internal operation of shock absorbers. Columbus Parts Corp., 1801 Spielbusch, Toledo, Ohio.

AIR CONDITIONING MANUAL—A loose-leaf manual covering the service of 30 car factory and independently made air conditioning units has been published by the Anderson Service Co., 1515 Levee, Dallas, Tex. It covers 1957 through 1960 models. In four sections, the manual lists manufacturers' parts numbers, suggested prices and labor allowances, a cross reference that includes compressor and clutch assembly interchange data, and listing of all cars for which parts are available, and exploded views of evaporators, including alphabetical parts listing and numbering system.

Joins Law Firm

James P. Falvey, who resigned recently as chairman of the board of Electric Autolite Co., has joined a Toledo, Ohio, law firm. He will continue as a director and member of Autolite executive committee.



change to frame pick-up superstructure— handle all cars and save up to \$395.00

Equip your old lifts to handle all modern cars by installing a new Rotary FP-46 Frame Lift superstructure. You can use your present lift jack, and save up to \$395 compared to the cost of a completely new lift.

VERSATILE LIFT—With the FP-46 you'll be able to handle cars faster, do service, repair and re-

placement jobs that just aren't possible with a Roll-On or Free-Wheel type lift. The FP-46 is today's most versatile lift with a wide range of pick-up adjustments to accommodate all car frame styles. The easily installed conversion superstructure is available for Rotary and other make lifts built since World War II.

MAIL COUPON TODAY FOR MORE INFORMATION

ROTARY LIFT DIVISION
Dover Corporation

DOVER Dover Corporation, Rotary Lift Division
1107 Kansas, Memphis 2, Tenn.

Please send information on the Rotary FP-46 conversion superstructure.

Name _____

Company _____

Address _____

Best any time



AERO-SEAL JET[®] worm drive hose clamps

Whenever you're dealing with hose clamps (using them or selling them) you will find more plus features in AERO-SEAL than you can get anywhere else. The patented JET mechanism permits almost instantaneous installation but will never shake loose. The patented band slots are shaped and angled to prevent binding. The patented interlock of saddle and band eliminates spot welding. AERO-SEAL bands and saddles are 302-18-8 stainless steel, and all stainless is also available. You'll find no burrs or sharp edges because AERO-SEALS are finished to aviation standards.

AERO-SEALS come in diameters from 7/16" to 15 feet to solve a multitude of fastening problems. Don't accept less. AERO-SEALS are best any time.

BREEZE CORPORATIONS, INC.



700 Liberty Avenue, Union, New Jersey
Cable Address: Breeze, Union, N. J.



Is It Legal?

continued from page 82

ing upon the clause of his policy which insured against damages arising out of "occasional use for other business purposes of any automobile owned by the insured and used principally in the above defined (service station and used car dealer) operation."

"Counting all the days I owned the truck," argued Gordon, "it was

in use as part of my stock for sale three times as often as it was used for any other purpose.

"Use" Interpreted

But Judge Wright decided that the truck was not covered by the insurance.

Said the judge, "What would the ordinary man make of the language of the insurance policy? The ordinary man would reasonably understand that 'use' meant use of the vehicle. Use of the vehicle as stock in trade would not reasonably be

thought as an intended use. would not be taken to mean use of merchandise on display for while standing idle.

"The coverage, which depends upon the 'use' made of the truck must be interpreted to relate to 'use' of it as a vehicle rather than as merchandise on display.

"Examining such day to day use of the truck, I find that it was 'principally' for casual hauling jobs, not towing of disabled vehicles but hauling lumber and other goods for other business enterprises. It was not used principally in connection with the service station or dealership. Therefore it was not covered by the insurance policy taken to protect the vehicles of business."

Based on case reported in 166 Atl. 2d at 462 (N.H.)

Insurance Firm Rejects Huge Repair Bill

Jay Marshall's imported Flaubert-Cougar was damaged in a collision while Jay was driving across the country.

There was no Flaubert-Cougar dealer in Plainville, the nearest town, or for that matter in the entire state. Jay turned the car over to Tom Tooley's Reliable Garage.

Tom did a satisfactory job, but it took time. He had to send the necessary parts and some experimentation and study was necessary in order to solve the problems arising from the unique design and construction.

At the end, Tooley's bill was \$450 and Marshall's insurance carrier, Steelheart Casualty Co., refused to pay.

"The Flaubert-Cougar deal in Kansas City quotes \$255 for work," said Steelheart. "The dealer in Chicago quotes \$265. The dealer in Des Moines quotes \$275. We will not pay this outrageous bill."

Minimize Damage

But Jay sued and got the full amount of his bill.

Judge Sharp explained, "The law is that Marshall was required to minimize the damage, to the extent possible by reasonable care." "What could be expected of him in these circumstances?"

[CONTINUED ON PAGE

CHAMPION

with EXCLUSIVE OIL MONITOR

Prevents costly "down time" . . . guards your equipment against losses by automatically disconnecting the compressor when the oil level drops below normal operating range.

Champion Air Compressors are available in single and two stage models ranging from 1/4 to 20 Hp.

SEE OUR CATALOG IN SWEET'S OR WRITE FOR COPY



Representatives in Principal Cities

CHAMPION
PNEUMATIC
MACHINERY CO.

PRINCETON 3, ILLINOIS

COMPRESSORS

DUPONT ZEREX®

**THE ANTI-FREEZE THAT GIVES YOU
THE EXTRA SELL OF TWO BIG NAMES**

only anti-freeze with MR-8 rust
bitor. Protects all engine metals



(including aluminum) and water
hoses...prevents rust clogging.



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Better Things for Better Living . . . through Chemistry

Take your pick
for super-quick
**CARBURETOR
CLEANING!**
GUNK
offers you a
choice of two

**GUNK®
H.S.**

the world's
most powerful
carbon
digestive
solvent!



- * water sealed for long-life
- * strips carbon, paint, grease fast
- * cleans carburetors, pistons, engine blocks, automatic transmission parts completely
- * 1½, 3 and 6 gal. Pail Kits — 30 and 55 gal. Open Head Drums — baskets available for all sizes

NEW!

**GUNK®
C-C**

the easiest
to handle
carburetor
cleaner
ever!



- * no lingering offensive odor
 - * will not burn hands
 - * 100% active — long bath life
 - * 5 gal. Pails with or without baskets—15, 30 and 55 gal. Closed-Head Drums
- Either one—GUNK H.S. or GUNK C.C. cleans cleaner! Both are safe, effective, and economical. See your GUNK Jobber and choose the one that suits you best . . . but, always "Dunk 'Em In Genuine GUNK"!

® Reg. trade mark



GUNK CHICAGO CO., River Forest, Illinois
RADIATOR SPECIALTY CO. Charlotte, No. Carolina
In Canada: RADIATOR SPECIALTY CO. OF CANADA LTD., TORONTO

Is It Legal?

continued from page 130

"His automobile was disabled. It was in Plainville. No dealers of that particular make of car were within hundreds of miles. Can it be said he was obligated to shop around at great distances in order to get the best possible price? (It is probable, too, that objection would be raised to the expense which would be incurred in towing the automobile to distant places.)

"Of course, Tooley's costs were higher than would be those of a shop equipped and stocked to service this kind of automobile. But there is no evidence that his charges were unreasonable for the time expended and cost of the materials and parts."

Based on case reported in 125 S. 2d at page 198 (La.)

Visitor Injured in Shop, Holds Dealer Liable

As was his custom on Monday mornings, Harry Phillips, driver for the Sparkle Laundry, stopped at Ben Jacobs' Rocket dealership, entered the service department and walked across the shop to the locker room to pick up the employees' soiled coveralls. On the way back to his truck, Harry slipped on a puddle of oil and injured his knee seriously.

He demanded that Ben pay for his medical and hospital bills, loss of earnings and pain and suffering.

"Jacobs knew that I had to walk over that floor to get to and from the locker room," Harry said. "He should have seen to it that the floor was safe."

Was Condition Known?

But Judge Wright dismissed Harry's case and Ben did not have to pay. The judge explained, "In order to charge Jacobs with liability, it must be shown that the oil was on the floor by his action or that it had been there for such a time as to charge him with notice that the floor was dangerous.

"Phillips walked across the floor on his way to the locker room and saw no oil. Traversing the very same route on his way back, he slipped on the patch of oil.

"Jacobs operates this garage for



"I dread Monday mornings!
Here comes the boss with
another selling scheme!"

the repair and servicing of the automobiles he sells and the automobiles of customers. Motor vehicles are constantly being parked and moved on the floor of the shop, and from one cause or another, quantities of oil do leak from parked automobiles in a very brief time.

"There is nothing in this case to show that the oil on which Phillips slipped had been there any length of time. Indeed, the fact that he did not see any oil on his first trip, would indicate that the oil had been spilled or leaked during the brief period when he was in the locker room.

"Under these circumstances, we cannot charge Jacobs with negligence in failing to be aware of the condition and in omitting to remove it."

Based on case reported in 111 S. E. 2d at page 521 (S.C.)

Werling Heads Seat Cover Group

At the sixth annual meeting held in Chicago last month, C. M. Werling, executive vice president of the Howard Zink Corp., Fremont, Ohio, was elected president of the Automobile Seat Cover Assn. of America.

The association's next meeting will be held Jan. 28, 1962, in Chicago, prior to the opening of the Automotive Accessories Manufacturers of America show.

Now a low-priced
cash register with
service station
keyboard



The new Smith-Corona, the only low-priced, full-size cash register that safeguards cash, simplifies balancing, records every sale on tape—and has designation keys for commodities!

What's more, when you buy the new Smith-Corona tailored to your business free of charge.

Additional big-machine features: time-saving paid-tape that registers all items; pilfer-proof enforced designation vice; cash protector drawer lock; locked-in detail tape; removable adding machine unit.

All these features are economy priced at just \$229. the new Smith-Corona cash register at your dealer's price.

Manufacturer's list price. Subject to change. No federal excise tax. Other models from \$149.50.



SCM SMITH-CORONA
DIVISION OF SMITH-CORONA MARCO

New Fiats Unveiled

Fiat has announced two new models, the 1800B, a four-door station wagon, and the 2300, a four-door sedan. They replace the 1800 and 2100 models, respectively. New models have disc brakes on all four wheels, new rear suspension system and 6 cyl. engines. Overdrive is optional on model 2300.

Model 2300 has disc brakes on all wheels



**Add-On Unit
FREE with 18 Lev-R-Vents**

This sturdy Add-On Unit comes *FREE* through July, August, September only with 18 popular, fast-moving Lev-R-Vent Safety Type Radiator Pressure Caps at regular prices! Add-On Unit hangs on the bottom of your Stant MU-600 Wall Merchandiser. Puts all of your Stant Caps in one compact location . . . easy to check and keep your cap stock complete. Get ready for fall servicing now! Order needed caps with this Summer Special.

STANT MANUFACTURING CO., INC.
Connersville, Indiana

The cars of Winner A. J. Foyt and of all 33 entrants of the 1961 500 Mile Speedway Classic were equipped with stock Stant Pressure Caps

Lev-R-Vent Safety Cap

STANT CAPS

Cures for Stubborn Oil Leaks

continued from page 59

stalled, the push rods are inserted with their oil-hole ends facing the rocker cover, and the rocker studs and cylinder-head nuts tightened to 27-33 lb.-ft. in correct sequence.

Oil leakage between valve-cover gaskets and cylinder heads on Mercury, Lincoln Continental and other overhead valve engines having corner drain holes for oil return to the crankcase may be due to sludge restriction causing excess oil to accumulate at the cover gasket. When replacing a cover gasket, or when the valve cover is removed for any other operation, a good preventive practice is to insert a rod or round brush through each drain hole to be sure it is open for proper drainage, reducing the chance of oil flooding and seepage at the valve covers.

Provides Better Seal

To provide better valve cover sealing on Lincoln Continental engines, a steel bolt load spreader is used at each cover capscrew. To minimize spreader distortion or failure on early production engines, a $\frac{3}{8}$ in. flat washer should be installed between the spreader and the cover flange to help retain the spreader tension.

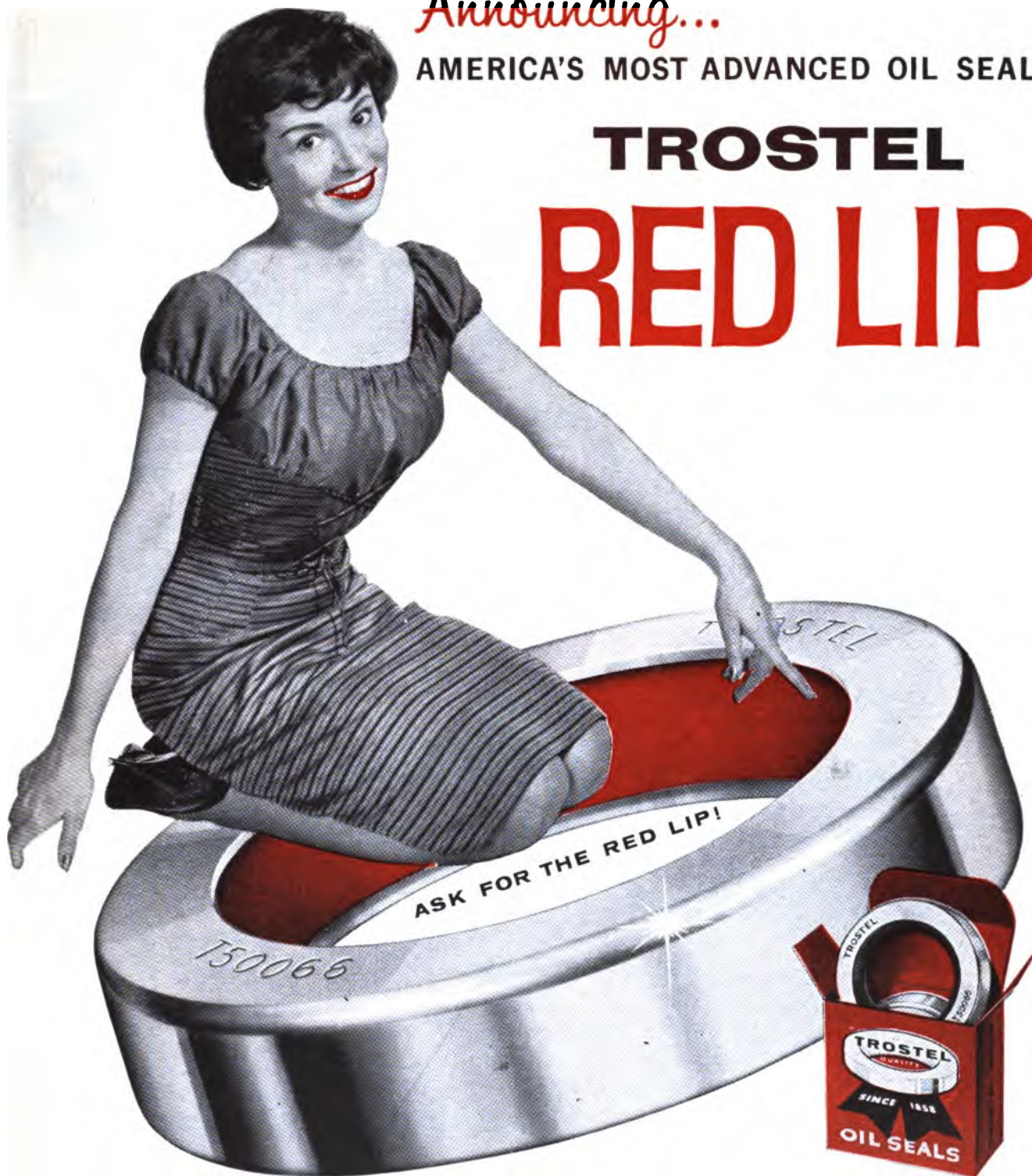
For installing wick type seals in the rear main bearing caps of Chevrolet 6 and Pontiac V-8, Oldsmobile F-85, Buick Special and the Tempest 4 and V-8 engines, special tools are available for packing the seal in its groove and retaining it in place as the ends are trimmed.

[CONTINUED ON PAGE 136]

Announcing...

AMERICA'S MOST ADVANCED OIL SEAL

TROSTEL RED LIP



cuts friction... seals hot or cold
prevents leakage... lasts longer

Never before has there been a seal like this... so trouble-free that once installed your job is done! See your jobber.

ALBERT TROSTEL PACKINGS, LTD.



LAKE GENEVA, WISCONSIN • A complete producing organization for OIL-SEALS, O-RINGS, PACKINGS

MOTOR, August 1961

135

Cures for Stubborn Oil Leaks

continued from page 134

If a shop does not have such tools, the wick may be rolled in the groove with a hammer or round tool, working from each end in toward the center. A round block of wood the diameter of the crankshaft journal may be used to hold the wick in place as the ends are cut approximately $\frac{1}{16}$ in. above the cap surface. Following installa-

tion of braided wick seals, the engine should be run at a slow idle when first started to allow the seal to seat against the journal.

The neoprene composition side seals used on the rear main caps of the Buick Special, Oldsmobile F-85 and Pontiac Tempest V-8 engines are slightly longer and narrower than the cap side grooves. These seals should be oiled, then installed uncut with upper ends protruding $\frac{1}{16}$ in. above the cap surface. Following installation of the cap, the seals are then forced

upward with a blunt tool to provide proper sealing at the bearing parting line. The side seals may leak immediately upon installation until the swelling action of the neoprene brought about by engine heat and hot oil causes the seals to swell in their grooves.

THE END. NOW TURN BACK TO PAGE 60

Sells 500 Breather Caps Each Year



Ernest Fretwell, station operator in Berwyn Heights, Md., explains breather cap's function

Regular inspection coupled with displays can help produce a minimum volume of 300 crankcase ventilation breather cap sales a year. The figure can swell to 500, if an incentive is offered employees, according to Ernest H. Fretwell, owner of Berwyn Heights Cities Service in Berwyn Heights, Md.

Fretwell manages to hit the 500 figure because he offers a 15 cents incentive for each breather cap sale.

When the hood is raised, employees look for telltale signs, such as excessive oil leakage around the valve cover below the breather cap. Prospects are told that a plugged cap does not permit free passage of air through the crankcase ventilator. When internal pressure builds up, oil is blown out.

Next step is to guide the customer to an inside display to see a comparison of the plugged cap with a new one.

"A breather cap sale carries a nice markup," Fretwell says. "Moreover, a sale can lead to another sale—perhaps a new oil filter or breather tube. They're easy to sell once the customer understands their function."

how to turn thin air...



into fat profits!

Over 14,000 cubic feet of air are needed to burn one gallon of gas. Even an average cubic foot of air contains a million particles of dust...dust that chokes filters, ruins gas mileage and engine performance. A new LEE Air Filter turns that dust into money. Here's how: it takes only two minutes for you to install a flameproof LEE Air Filter—and you make a \$2 profit on every one! You earn big profits on LEE dual-action oil and gas filters too. And, because all LEE filters meet or exceed SAE, OEM and U.S. Government specs, you know you're selling quality. See your distributor or write today.

LEE originators of the FLAME-PROOF AIR FILTER for protection against underhood fires.

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FITZGERALD GASKETS

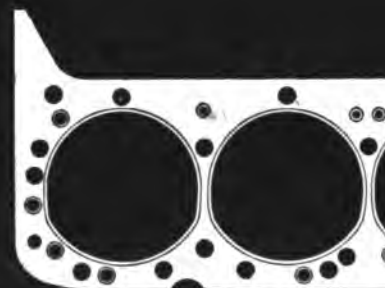
have the
answer

A full line of complete sets
for engine rebuilding. Use
a Fitzgerald RS set today



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THE
ADDED
EXTRA

Craftsmanship



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Canadian FITZGERALD Ltd., Toronto, Canada

**Safety
is built
into every
gojo
hand
washing...**



Biological Testing Proves the Virtual Absence of Toxicity in *gojo* Creme Hand Cleaner

Laboratory tests recommended by the Association of Food and Drug Officials of the United States for the appraisal

of the safety of chemicals in foods, drugs and cosmetics were conducted on Go-Jo Creme Hand Cleaner. The tests confirmed the virtual absence of subacute or chronic dermal or systemic toxicity and established the relative safety and freedom from toxic irritants of Go-Jo.

Complete Bacteriologists' report available on request!

IN PLAIN TALK, THIS
MEANS YOU'RE ALWAYS
ASSURED THE FINEST,
PUREST, SAFEST HAND
CLEANING MONEY CAN
BUY WHEN YOU USE
gojo CREME HAND
CLEANER.

**...economy,
too!**



The Heavy Duty 4½
pound Go-Jo Dispenser
saves as much
as 75% of handcleaning
costs.

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Akron 9, Ohio

2813 MANUFACTURER OF *gojo* PRODUCTS

U.S. Vehicle Sales

January-May, 1961-60

As counted by R. L. Polk and Co.*

Passenger Cars

	Position		Total Retail Sales for First 5 Months		Per Cent of Grand Total of Retail Sales	
	1961	1960	1961	1960	1961	1960
GENERAL MOTORS			1,061,711	1,226,767	49.6	47.4
Chevrolet	1	1	621,185	726,387	29.0	28.1
Pontiac	3	5	145,494	172,623	6.8	6.7
Oldsmobile	5	7	124,723	149,894	5.8	5.8
Buick	7	8	109,871	113,341	5.2	4.3
Cadillac	10	10	60,438	64,522	2.8	2.5
FORD			651,207	724,728	30.4	28.0
Ford	2	2	521,599	608,010	24.4	23.5
Comet	9	12	69,327	37,633	3.2	1.4
Mercury	11	9	47,409	68,684	2.2	2.7
Lincoln	14	14	12,872	10,401	0.6	0.4
CHRYSLER			255,364	391,646	11.9	15.1
Plymouth	6	3	121,941	195,288	5.7	7.5
Dodge	8	6	92,634	155,135	4.3	6.0
Chrysler	12	13	36,184	34,162	1.7	1.3
Imperial	15	15	4,605	7,061	0.2	0.3
AMERICAN MOTORS			138,671	178,074	6.5	6.9
Rambler	4	4	138,671	178,074	6.5	6.9
STUDEBAKER	13	11	30,597	49,405	1.4	1.9
Miscellaneous			3,831	17,281	0.2	0.7
TOTAL			2,141,381	2,587,901		

*Connecticut figures for April-May, 1961, not included

Trucks

	Total Retail Sales for First 5 Months		Per Cent of Grand Total of Retail Sales	
	1961	1960	1961	1960
CHEVROLET	118,406	137,700	33.6	33.9
FORD	114,649	122,193	32.5	30.1
INT. HARVESTER	40,086	47,853	11.4	11.8
GMC	27,369	33,373	7.8	8.2
DODGE	15,733	18,566	4.5	4.6
WILLYS	10,722	11,984	3.0	3.0
Truck	7,091	7,959	2.0	2.0
Jeep	3,631	4,025	1.0	1.0
WHITE	5,179	6,610	1.5	1.6
MACK	3,643	4,992	1.0	1.2
STUDEBAKER	2,317	1,737	0.6	0.4
DIAMOND T	719	1,177	0.2	0.3
BROCKWAY	346	510	0.1	0.1
Miscellaneous (Domestic and Foreign)	13,307	19,223	3.8	4.8
TOTAL	352,476	405,918		

Tire Shipments Up 10 Per Cent

According to the Rubber Manufacturers Assn., manufacturers' shipments of passenger car tires during May totaled 10,031,919 units, an increase of 10.24 per cent above the amount shipped in April. Tire production in May amounted to 8,500,881, an 8 per cent increase over the April figure of 7,865,550.

Imported Vehicle Sales

10 Leading Makes

January-May, 1961-60

As counted by R. L. Polk and Co.*

1961		1960	
Volkswagen	71,790	Volkswagen	64,033
Renault	15,799	Renault	32,870
Fiat	5,483	Opel	13,132
Mercedes Benz	4,853	English Ford	12,986
English Ford	4,790	Fiat	10,607
Opel	4,444	Simca	7,218
Volvo	4,090	Triumph	7,145
Triumph	4,066	Austin Healey	7,074
Austin Healey	3,546	M. G.	6,080
Simca	3,402	Vauxhall	6,021
All others (66 makes)	30,888	All others (67 makes)	57,697
TOTAL	153,151	TOTAL	224,863

*Connecticut figures for April-May, 1961, not included

Red-Faced Salesmen Sell Cars

Every retail merchant will ponder ways to create local interest and publicity for his business. The ultimate aim, of course, is to build store traffic and boost sales.

The off-beat approach is generally the most successful. At least that is the experience of Dan Rohyans Ford, Inc., Columbus, Ohio.

During one week earlier this year, Rohyans staged a "red-faced" sale. The promotion was kicked off with a full page ad in a local newspaper, supported subsequently by radio and television commercials. For the duration of the sale, all of Rohyans' salesmen had their faces painted red until they reached their assigned quotas for that particular period.

One man, with his face painted a bright red, donned a sandwich board and spent the week touring the downtown Columbus area whipping up interest in the promotion.

As could be expected, there was some initial resistance to the idea among the firm's salesmen. But management convinced them the idea was sound and could help them in their selling efforts.

One of Rohyans' executives remarked soon after the promotion, "We know that we generated a lot of talk locally and that we increased our traffic during the week we staged the 'red-faced' sale."

14 Dealers Get Loan Approvals

Of the 511 business loans approved by the Small Business Administration in May, 14 were for new car dealers. The total of loan approvals was the highest monthly figure this year. The number has risen steadily each month since February, when 302 loans were approved. In March there were 483 approvals, and in April 501.

Among the various type businesses that received loan approvals in May were seven service stations, four independent garages, four wholesalers, and one automotive parts rebuilder.

don't divide your income with
lost time



protect your profits with a
Lathem
PAYROLL and JOB TIME RECORDER

Consider the ways that time on the job can be wasted . . . can run up even higher your cost of doing business. For instance . . . too much delay between jobs . . . too much time on each job . . . excessive tardiness.

To correct these abuses, you need to know where they occur. And that's where a Lathem Time Recorder can do a job for you. It gives you an accurate record of the time each job is started and completed . . . when each employee arrives and leaves work. Every loss of time stands out . . . ready for you to eliminate for a better profit picture.

Mail the coupon today for complete information, prices and sample payroll and job cards.

LATHEM TIME RECORDER CO.

82 Third Street, N. W., Atlanta, Georgia

Gentlemen: Without obligation, please send me complete information, including prices, about the Lathem Payroll and Job Time Recorder.

NAME _____

COMPANY _____

STREET _____

CITY _____

ZONE _____

STATE _____

Steel, Aluminum Battle For Car Makers' Favor

continued from page 43

in the upcoming 1962 car models.

Despite the apparent success of the new aluminum engines, few engineers are willing to predict a widespread changeover from cast iron in the near future. It is hardly a secret that General Motors has been unpleasantly surprised at the production cost of the aluminum V-8 used in the B-O-P compacts.

Because of this experience, aluminum engines for the full-sized lines of at least two GM divisions are said to have been shelved.

In addition, Buick, in an effort to make its compact more competitive in price, is said to be planning the substitution of a cast-iron V-6 engine as standard equipment for the 1962 Special. The aluminum V-8 will be continued as an option at an extra charge of \$150 to \$200.

While some of the additional cost of the aluminum powerplant was anticipated, part of it was due

to unexpected difficulties in casting and machining. It was recognized at the start that raw material costs would be higher. Designers realized that the extra manufacturing step of casting iron cylinder liners into the block also resulted in additional expense. What they failed to foresee was the high rate of rejection, particularly in the early stages of production, due to porosity of the castings.

Another reported difficulty was uneven hardness of the metal, causing machining problems. In certain areas where the mold contacted the molten aluminum, the metal was chilled, causing it to harden. After producing these blocks for nearly a year, GM's Central Foundry Div. has learned a great deal. However, it seems unlikely that the company will introduce additional aluminum engines for the time being.

Investment at Stake

Ford Motor Co. has been testing aluminum powerplants for several years but, while they recognize the desirability of reducing weight, engineers and production officials have been less than enthusiastic about deserting cast iron. As the only automobile company which makes its own iron and steel from the raw ore, Ford naturally has a tremendous investment in furnaces, mills and foundries. Most of these facilities are unsuitable for the production of aluminum parts.

To combat the weight advantage of aluminum engines, Ford has developed new foundry techniques which permit the casting of blocks with thinner wall sections. Cylinder blocks cast by conventional methods are unnecessarily heavy because extra wall thickness must be provided to compensate for possible core shifting, which would result in a wall that is thicker than specified in some locations and dangerously thin in others.

Mixes Plastic and Sand

In the Ford process, a plastic binder mixed with the core sand is said to provide smoother and more accurate cores. The sand-and-plastic core is cured within seconds in a preheated core box, eliminating the separate baking process and extra handling which can result in inaccurate castings due to cooling

[CONTINUED ON PAGE 142]

Profit Tips from



Meet ALL your hose service needs from one handy rack!

ARMOR-MOLDED

Kwik-Flex

Only one assortment—just 17 sizes—of "Armor Molded" Kwik-Flex, and you're ready to service virtually 100% of all cars! No separate hose hooks are necessary. Of full-molded construction, with precision molded ends, Kwik-Flex is the exclusive Durkee-Atwood flexible hose that can be installed in a jiffy. It is extremely flexible. It bends . . . it twists . . . no special tools or clamps needed. Made of Neoprene, Kwik-Flex is highly resistant to oil, heat and abrasion. For full information about money-making assortments, (F16 Key and F24 Stock), write to Durkee-Atwood, Automotive Division, Minneapolis 13, Minn.




16 Factory Warehouses in Major Trading Areas

DURKEE-ATWOOD COMPANY

AUTOMOTIVE DIVISION • MINNEAPOLIS 13, MINN.

V-Belts & Hose • Dortite & Tapes • Inner Tubes & Repair Materials • Chemicals & Adhesives

WALKER...

**one of the three
leading suppliers of
oil and gasoline filters
to car and truck
manufacturers**



WALKER MANUFACTURING COMPANY

RACINE, WISCONSIN

Steel, Aluminum Battle For Car Makers' Favor

continued from page 140

of the core between the baking and casting steps.

Falcon and Comet cylinder blocks are produced by this process. As a result, weight of the complete engines has been held to approximately 350 lb. Further progress in weight reduction will be made in 1962 Ford engines, according to the company, by forming

molds under high pressure, producing a harder, more uniform finish and greater dimensional accuracy.

A similar casting process will be used in the manufacture of the new General Motors V-6. As techniques are perfected, minimum wall thickness is expected to decrease from the present average of .200 in. or more to .100 in.

The rivalry among material suppliers is not confined to engines and bumpers. With several divisions of General Motors, Ford and

Chrysler now using aluminum automatic transmission cases, this component represents a major portion of the total consumption of the industry. Usage is expected to increase with Chrysler's swing to aluminum cases for the automatics used in its larger cars.

While an aluminum case is considerably lighter than one of cast iron, it lacks the heavier material's ability to dampen sound and vibration. A recent model in the luxury class changed from aluminum to cast iron for the transmission extension housing to gain greater smoothness and quieter operation. Careful design and strategic ribbing are necessary when aluminum is used.

New Area Eyed

The next major application of aluminum may be in rear axle housings. With conventional rear suspension, the entire housing is unsprung weight. Reducing this weight could bring about a noticeable increase in riding comfort and handling and might even provide longer tire life, due to better traction and less bouncing of the rear wheels.

Aluminum brake drums also reduce unsprung weight and, even more important, improve heat dissipation. The chief obstacle to wider usage is cost. Not only does the material cost more, but the price of the finished product is substantially higher. A cast-iron liner must be bonded to the aluminum drum to provide a durable braking surface. While many attempts have been made to eliminate the liner by using a harder alloy or applying a wear-resistant coating to the aluminum, none has been completely successful.

Which Is Best?

Aluminum, chromium-plated steel, stainless steel and even plastics are used for automotive trim. How does the designer decide which is best? The answer depends upon the location of the trim, the type of finish desired, the size and probable production of the parts and, of course, the cost of raw material and manufacturing.

Take a scuff plate, for example. Chrome-plated steel could be used, but stainless steel can be employed

[CONTINUED ON PAGE 147]

No. ST 1
Dorman Brake
Spring Tester

No. BS 200
Brake Spring
Dealer Stock

**Now
sell more Brake Jobs with
Dorman Tester and Stock!**

A new combination to help you make more profit on brake jobs . . . the Dorman Brake Spring Tester that detects weak and unbalanced brake shoe return springs . . . and the No. BS 200 Brake Spring Stock that equips you to make the necessary replacement.

Insure your brake jobs with new Tester

That's why to fit

ROMAN

Dormer, New York, Toronto

DUAL WHEEL ADAPTERS

FOR ANY 1/2, 3/4, 1 TON TRUCK



COMPLETE
WITH
FENDERS

DOUBLES TRACTION—
USES SAME SIZE TIRES
ADDS TO APPEARANCE—
LOADS AND TOWING TRAILERS
SATISFACTION GUARANTEED
OR MONEY REFUNDED

Set No.	Make and Size	Dealer Cost
CG556F	Chev. 1/2 Ton	\$37.50
CG658F	Chev. 3/4-1 Ton	45.00
D455F	Dodge 1/2 Ton	37.50
D658F	Dodge 3/4 Ton	45.00
F555F	Ford 1/2 Ton	37.50
F658F	Ford 3/4 Ton	45.00
I455F	IHC 1/2 Ton	37.50
I7256F	IHC 3/4 Ton	45.00
W555F	Willys All	37.50

Used by Sportsmen—Farmers—Contractors—
Camper Haulers—Small Wreckers—Pulling
Trailers—Utilities—Hauling Livestock—
and others. Order from your jobber or
truck equipment distributor. Write for
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Most Complete Line

DUALMATIC

"Selective Drive" HUBS



Easy to Install
Simple to Operate
One Year Guarantee
40 Models Available

Dealer's cost in lots of three, Willys and
IHC Scout, \$37.50 per set. Others to 1 ton,
\$42.50 per set. Stocked by over 5,000
jobbers and 100 warehouses. Free chrome
demonstrator available to dealer on 3 set
order. Write for catalogue and price sheet.

DUALMATIC
O BOX 419 LONGMONT, COLORADO

Steel, Aluminum Battle For Car Makers' Favor

continued from page 142

in this area without chrome plating. Here's one case where a finished part of stainless might be cheaper than ordinary steel because the extra processing step is not required.

On the other hand, a parking-light housing next to a chromium-plated bumper requires a bright finish. Chrome-plated steel would probably be used here, since plating stainless to match the bumper would be expensive. Chrome-plated stainless is used, however, in applications where a bright finish and superior resistance to corrosion are required.

Room for All

Anodized aluminum offers the choice of a wide variety of surface treatments, ranging from a dull satin to a high polish. It is also supplied in various colors. It is obviously the best choice where the stylist is looking for distinctive effects. Since no one material is clearly superior on all counts, the trim area is one market where there is room for everybody.

The designer of tomorrow's car has an ever-widening choice of lighter, more attractive and more durable materials. New manufacturing processes further extend their flexibility. The result of the intense rivalry among suppliers is bound to be better automobiles.

THE END. NOW TURN BACK TO PAGE 44



"Try calling Acme garage. We don't owe them anything"

FREE! FOR DEALERS WHO SELL FAMOUS FRAM "WEAR-GUARD" FILTERS

8 GIFT CERTIFICATES
(Free with 8 Doz. Cartridges)



LaBELLE ELECTRIC COFFEE MAKER

—brews from 4-17 cups of excellent coffee. It's just one of the many nationally advertised gifts you can get ABSOLUTELY FREE in FRAM'S MILLION \$\$\$ GIVEAWAY. Gifts are your reward for selling Fram "Wear-Guard" Filters—today's fastest moving filters—proved to trap up to 40% more dirt than any other filter tested.

STOCK UP ON FRAM FILTERS GET FABULOUS FREE GIFTS!

With every 24 Fram Filters you buy, your supplier gives you 2 Free Fram Gift Certificates. Redeem them immediately or save them for gifts of higher value.

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Providence 16, R. I.

I want to get my share of Fram's Million \$\$\$ Giveaway. Please send me catalog of free gifts.

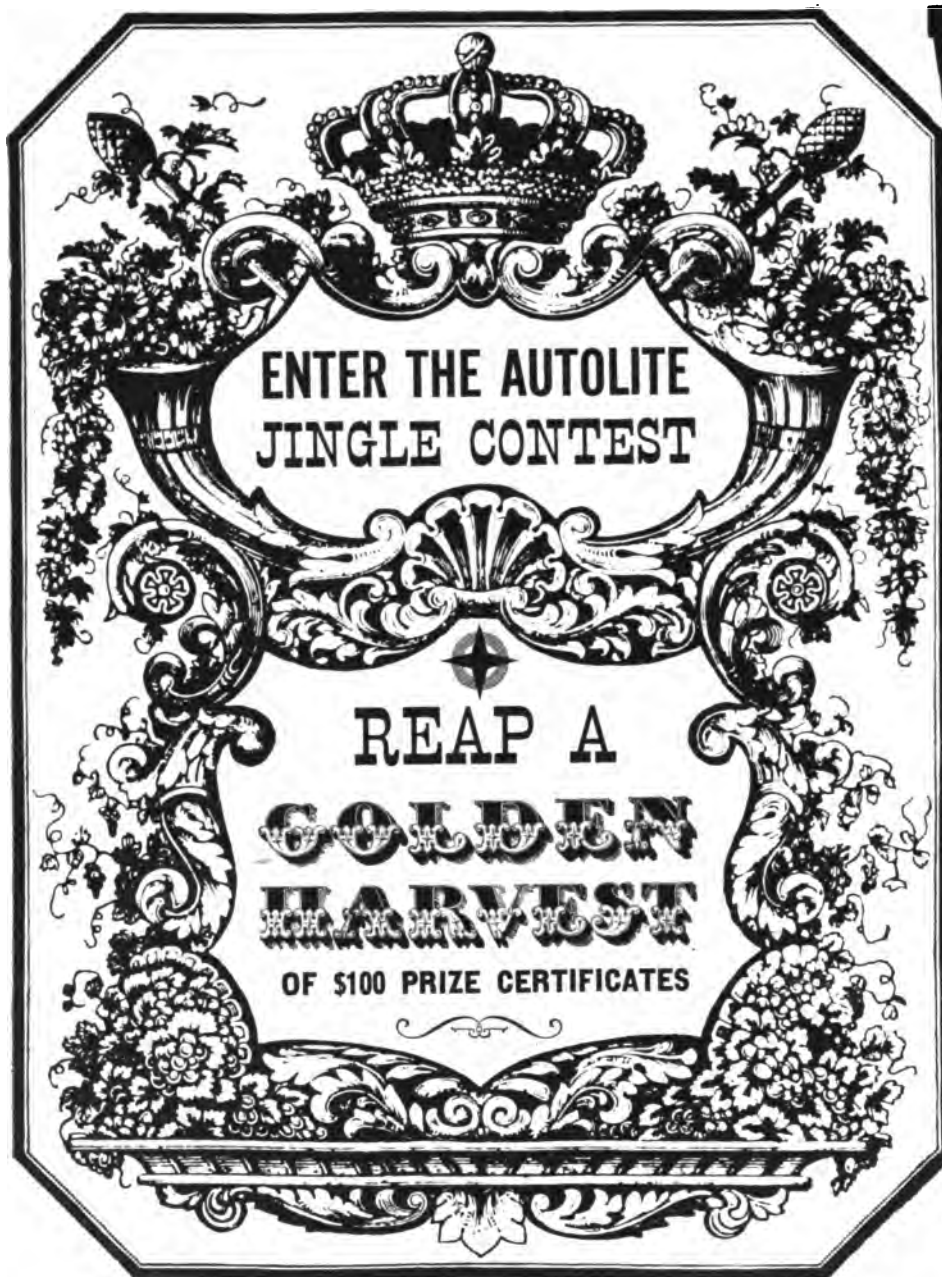
NAME

ADDRESS

CITY

ZONE STATE

MY SUPPLIER'S NAME IS




WHAT DO YOU DO?

Just write a last line for the simple jingle printed on the official entry blank. The blanks are available free from any Autolite supplier. After you've written the few words it takes to complete the jingle, drop your card in the mail—you're officially entered. Enter as often as you like. You're in the running to win a valuable \$100 Golden Harvest Prize Certificate, and hundreds of 'em are to be given away.





Golden Harvest Prize  Certificates are redeemable by your Autolite supplier at dealer cost for merchandise of your choice—anything he handles. Your \$100 Prize Certificate, then, is actually worth approximately \$150 at retail, and the merchandise you select is yours to do with in any way you see fit.

**ENTER
EARLY**

ENTER OFTEN!

Submit as many entries as you like—one for each card you complete and mail.

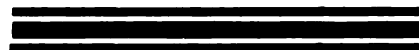
There's nothing in the rules to prevent you from winning several \$100 gift certificates.



★★★★★★★★★★★★★★

**CONTEST
CLOSES NOV. 30**

Your best battery months are just ahead, so get your sales push rolling now. And remember, every Autolite battery you sell means a completely satisfied customer, big profits for you, and a chance at the thousands of dollars to be given away in Golden Harvest Gift Certificates. Phone a battery order to your Autolite supplier right now . . . and start your happy Harvest!



 **AUTOLITE.**

Oil Plus Coolant Equals Trouble

continued from page 55

and fill the crankcase with SAE 10 oil or flushing oil and run at a fast idle for 10 or 15 minutes. Drain the crankcase, clean out the oil filter case and install a new filter cartridge. Refill the crankcase with the grade of engine oil normally used.

After this treatment, the starter should turn the engine freely. Run at a fast idle for 30 minutes, shut it

off and immediately restart. Slow starter speed is an indication that all the deposits have not been removed. In this case, the engine must be torn down for complete cleaning.

When an engine has seized, due to glycol-based deposits, remove all spark plugs and pour undiluted solvent through each spark-plug port until pistons are covered to a depth of at least 1/2 in. Let the solvent soak the deposits until the engine can be turned over with the starter. The time required may

vary from 15 minutes to several hours.

When the engine is free, turn it through several revolutions with the starter to blow excess solvent and loosened deposits through the spark plug ports. Do not let this solvent contact the skin or painted surfaces. If you should spill some, flush off the area with clean water immediately.

After the solvent has been blown out of the cylinders, replace the spark plugs and spray or brush undiluted solvent on the valve stems. Then follow the flushing procedure already described.

Flush System

If your earlier tests indicated that deposits did not contain glycol, flush the lubrication system with a reputable brand of internal engine cleaner. Be sure to follow the supplier's instructions.

Water or antifreeze creates serious trouble inside an automatic transmission. A minute amount of sludge can cause valves to stick, resulting in erratic shifting. Pistons, clutches and other internal parts are also likely to be damaged. If the oil cooler leaks, transmission fluid will be forced into the radiator as long as the engine is running, since oil pressure in the transmission exceeds cooling system pressure. When the engine is shut off, however, transmission pressure drops to zero. The cooling system may remain pressurized for some time, resulting in coolant discharge into the transmission's oil supply.

Check Transmission Cooler

If there is considerable oil in the radiator, the transmission cooler is the prime suspect. Disconnect the cooler lines at the radiator. Pressurize the radiator with a cooling system pressure tester. If a mixture of water and oil comes out of the cooler connections, the cooler is leaking.

When coolant contamination of the transmission fluid is detected before the unit is damaged, flush it out with clean fluid. In the event deposits have already formed in the transmission's innards, it should be disassembled, thoroughly cleaned, and damaged parts repaired or replaced.

THE END. NOW TURN BACK TO PAGE 56



WITH K-D BRAKE TOOLS, YOU'RE A SPECIALIST TOO

Like surgery, brake service demands special tools. Your customer's life and your profit and reputation depend on them. You get nothing less than the best for this important service from K-D—the world's largest maker of brake tools, with the most complete line available. There are more than 200 special automotive service tools in the K-D line. Send in this coupon—get your free copy of the complete, pocket-size catalog today.

Dept. MO, K-D Manufacturing Co.
Lancaster, Pa.

Send me a FREE copy of the
pocket-size K-D catalog

Name _____

Firm Name _____

Address _____

City _____ Zone _____ State _____

K-D TOOLS

Make hard jobs easy



How RAMCO C-9 BACKBONE
prevents rail malfunctions



G-1002

There is a difference in modern, self-expanding oil rings—especially the Ramco C-9.

The difference you see here shows how important C-9's extra shoulder metal is in preventing malfunctions.

Some expander tabs, after normal wear, can let rails slip to bottom of the groove—can even let expander move forward to score the cylinder.

But our C-9 shoulders prevent this. They're twice as thick; twice as safe—and last twice as long. Uniform rail pressure is assured for thousands of extra miles.

Next time you install any oil ring, *think* about it. See if you'd feel safer installing the C-9—the only oil ring with backbone to prevent rail malfunctions, comebacks.

the backbone *makes the* difference



Safety from rail malfunction is only one of the many benefits the Ramco backbone brings you. They're all described in our folder: "BACKBONE FACTS". See your Ramco Jobber or write for your free copy: RAMSEY CORPORATION, ST. LOUIS 8, MISSOURI, a subsidiary of Thompson Ramo Wooldridge Inc.

RAMCO MODERN POWER

Brake Ad Stresses Quality Work

**Like playing
Russian
Roulette**



Everyone Knows . . .

A life is at stake—when playing Russian Roulette. But, do you realize you take the same chance when you have your brakes serviced? Your life is in the mechanic's hands—is he really reliable?

The only way you can be sure, is to deal only with well established, reputable business establishments. The men at Syracuse Brake Service have been servicing brakes of all kinds for over 27 years.

Our reputation is your guarantee that you couldn't get a better brake job anywhere at any price!

SYRACUSE BRAKE SERVICE
610 E. WILLOW ST. GR 1-7357
"Only 3 Blocks From Downtown"

Newspaper ad placed by Syracuse Brake Service, Syracuse, N.Y.

The importance of having brake work done by a reliable repairshop was stressed by Syracuse Brake Service, Syracuse, N.Y., in an unusual newspaper ad.

The shop, known for its creative advertising, used the headline, "Like Playing Russian Roulette." The copy went on to say, "Everyone knows a life is at stake when playing Russian roulette. But do you realize you take the same chance when you have your brakes serviced? Your life is in the mechanic's hands. Is he really reliable?"

Readers were then told their only guarantee was to rely upon an established, reputable business firm.

IGOA Shakes Up Officers

continued from page 53

Miss., put in a bid for the 1968 meeting. Washington state and Texas made pitches for later conventions.

Harold Grindle, executive director of IGO-Ohio, read the testimony he had just given before the Celler committee at a hearing on House Resolution 71, which would forbid any automobile manufacturer from financing the purchase or insuring the cars it builds. Although the bill is of primary interest to body shops, Grindle was warmly applauded for his testimony. The IGOA was also repre-

sented at the hearing by Harold Halfpenny, who is counsel for the Automotive Service Industry Assn.

The Minneapolis and St. Paul units are to be congratulated on the outstanding results of their long, hard work in preparation for the convention.

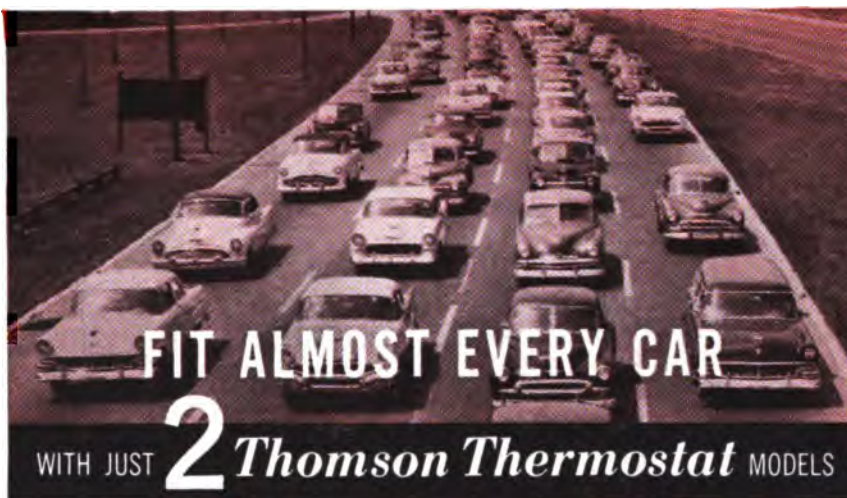
Deserving special mention are Bill McNaughton, past president of IGO-Minneapolis, and Elmer Heppner, president, IGO-St. Paul, Ray Sweeden, president IGO-Minnesota, and Don Maxam, executive-secretary, IGO-Minnesota.

Illness kept Heppner from attending the convention sessions. His place was taken over capably by Frank Schneider, Jr., who had been reservations chairman.

THE END. NOW TURN BACK TO PAGE 54

Heads Service Committee.

C. M. Tillinghast, general parts and service manager, American Motors Corp., has been named chairman of the Service Managers Committee of the Automobile Manufacturers Assn.



FIT ALMOST EVERY CAR

WITH JUST **2** Thomson Thermostat MODELS



YOU MAKE MONEY with NO INVENTORY PROBLEMS

EYECATCHING 16-THERMOSTAT DISPLAY CONTAINS JUST 2 DIFFERENT NUMBERS. PUT IT ON YOUR COUNTER. HANG IT ON THE WALL. AND PICK UP THERMOSTAT PROFITS THE EASY WAY.

- Designed by automotive engineers for new cars and replacement use.
- Self-cleaning poppet valve for trouble-free long life.
- Positive seal for faster engine warm-up, top heater efficiency.
- Engineered for newest high pressure cooling systems.
- Accurately calibrated for instant response at correct temperature.
- All brass and stainless steel corrosion-proof construction.



ASK TO SEE your jobber salesman's
Thermostat Demonstration Kit . . .
see actual working parts in operation.

Easy-to-understand brochure "Let's Talk Thermostats." Packed with valuable tips and illustrations for everyone who sells or installs thermostats. Helps boost thermostat sales. Send for your free-copy.



LEARN MORE ABOUT
THERMOSTATS AND
COOLING SYSTEMS!

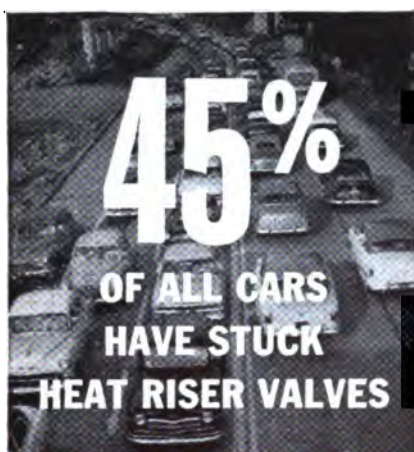
FREE!



Standard-Thomson Corp. Dept. CTB,
152 Grove Street, Waltham 54, Mass.

Yes, I'd like a copy of your free brochure "Let's Talk Thermostats."

Name.....
Company.....
Street.....
City.....Zone.....State.....



**Recent survey points up
strong need for
PART-EASE®
lubrication SERVICE**

A survey among representative service stations and car dealers showed that nearly one out of every two cars checked wasn't getting top engine performance and economy—because of stuck heat riser valves!

What can you do? Check the heat riser valve with every lube and tune-up—and apply PART-EASE Loosener & Lubricant when needed. PART-EASE is a new type of loosener and lubricant, made especially for manifold heat control valves. It cuts through lead and carbon deposits that cause sticking; frees the valve; and keeps it working properly. Prevents sticking, gumming and rust from lube to lube. Always use PART-EASE—it "TAKES APART... KEEPS APART."

Don't let this important point of service go overlooked! Use PART-EASE and insure more care-free miles for your customer's cars.



8 oz. can
12 oz. aerosol
Available from
your supplier.

PE-352



another "STANDARD OF
THE INDUSTRY" from
**AMERICAN GREASE
STICK COMPANY**
Muskegon, Michigan

DEATHS

WILLIAM A. FRAME, president of Amity Auto Sales Inc., (Chevrolet) Amityville, N.Y., died recently.

Mr. Frame was former National Automobile Dealers Assn. director for Metropolitan New York and member of NADA board for 12 years. He also served terms as president of the Brooklyn-Long Island Automobile Dealers Assn., the Nassau-Suffolk Chevrolet Dealers Assn. and the New York State dealers group.

PERRY C. RIPLEY, who was general sales manager of Kester Solder Co. from 1932 through 1948, died recently at the age of 68. He had retired in 1948.

Mr. Ripley is survived by his widow, Lois.

WILLIAM D. KIRKPATRICK, who retired as vice president of American Chain and Cable Co. in 1956, and as director last year, died last month at East Stroudsburg, Pa., after a short illness. He was 74.

A graduate of Lafayette College, he had been associated with Ameri-

can Chain for 42 years, always in sales.

Mr. Kirkpatrick had served as president of the Chain Institute, Hand Hoist Institute, and the National Standard Parts Assn.

Miami to Have Car Show

From Oct. 11 to 15, a preview showing of 1962 automobiles will be held in the Dinner Key Auditorium, Miami, Fla. The new model exhibit has been incorporated in the third annual South Florida House and Garden Exposition.

The show will be open free to the public from 2 to 10 p.m. and the show sponsor expects an attendance of over 125,000 persons.

Named to NADA Post

William Bryden (Dodge-Plymouth), Beloit, Wis., has been named to the Policy and By-Laws Committee of the National Automobile Dealers Assn.

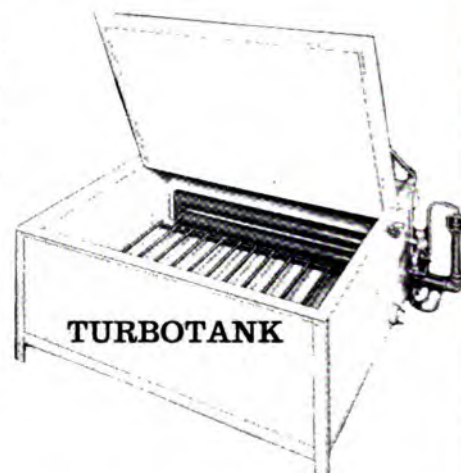
Bryden has been the NADA director for Wisconsin since 1955 and during 1960 served as secretary of the association.

BARBEE

**RADIATOR
EQUIPMENT
& SUPPLIES**

SINCE 1920

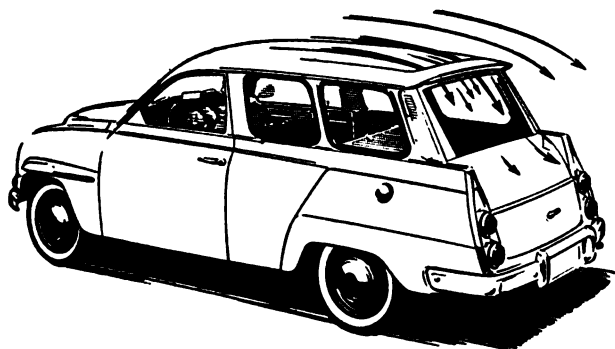
Cleaning tank. So efficient it will pay for itself. Just one of a complete line of equipment for the radiator service trade.



WHATEVER YOUR NEEDS — SUPPLIES, EQUIPMENT, SCHOOLING
Request Catalog and Price List. Convenient Terms

THE BARBEE CO., P. O. BOX 323M, LOUISVILLE 1, KY.

Air Cleans Saab's Rear Window



Saab's new 95 station wagon has a transverse "air foil" which serves to direct flow of air downwards over rear window, keeping it clean

Dealers Can Lick Inventory Challenge

continued from page 39

accessories can be installed in the dealer's own shop, and at a higher profit than on factory-installed equipment.

Because most of the salesmen who have come into automobile retailing over the past decade have been weaned on the Detroit-inspired idea that the customer should be encouraged to "design" his own car via special ordering of options, engines, color combinations, upholstery, trim and other elective components, a program aimed at selling off the floor requires some re-education of salesmen.

The first thing the salesman must unlearn is the something better, something more, something different technique. This is contrary to everything he knows and it is not an easy change for him to make.

The salesman who pushes the subject of options or other changes—something better than the car on the floor or different—is killing his chance of making a sale out of stock. The customer gets the dissatisfied feeling that the car on the floor lacks something. The more the salesman pursues the idea of selling up, of trying to win the customer to a costlier or fancier model, the more he reduces his chance of selling a unit out of inventory. This is a reversal of all the rules of selling, but it is absolutely necessary if the goal is to move inventory.

Incentives Spur Salesmen

To assure the salesman's interested participation, he should be offered an incentive in the form of a higher commission on out-of-inventory sales. The amount is up to the dealer, but the difference between the commission on an off-the-floor sale and a special order deal should be great enough to encourage the salesman to push inventory merchandise. Cars that have been in inventory beyond a specified period, say 45 days, may require a spur in the form of an extra bonus for the salesman who brings in a buyer.

Inventory vehicles must also be attractive from the customer's angle. The customer who buys out of in-

[CONTINUED ON PAGE 156]



What do they
have in common?



the uncommon
motor oil!

Motorists who *care* for their cars . . . and servicemen who *care* for their customers . . . agree that WOLF'S HEAD Oil is truly the finest of the fine. There's a reason—WOLF'S HEAD is 100% Pure Pennsylvania, Tri-Ex refined three important *extra* steps and scientifically fortified for the finest engine protection. The result is *uncommon* lubrication . . . *uncommonly* low operating and upkeep costs . . . truly *uncommon* quality. That's why motorists who *care* for their cars always insist on WOLF'S HEAD. Keep your customers coming back with WOLF'S HEAD . . . the motor oil that commands *uncommon* customer loyalty the country over.

WOLF'S HEAD OIL REFINING CO.
OIL CITY, PA.

Grind rods and mains IN THE BLOCK!

The Winona Crankshaft Grinder has been giving fast, accurate service for over 20 years. Now, with the Main Bearing Attachment it will also grind main bearings in the block! A micrometer measuring instrument is available. Now, you can do precision grinding of both main and rod bearings without removing the crankshaft. You can do the whole job in your shop for a better profit and better delivery!



WRITE TODAY for prices and literature!
WINONA TOOL MFG. CO.
WINONA, MINNESOTA, U.S.A.

DON'T BUY ANY
TEST EQUIPMENT
until you've seen the
NEW KING

**ALTERNATOR
GENERATOR
REGULATOR
TEST STAND**

FOR COMPLETE
INFORMATION
SEND THIS
COUPON



**KING ELECTRIC EQUIPMENT CO. 9123 INMAN AVE.
CLEVELAND 5, OHIO**

Please send me complete information about the NEW
KING ALTERNATOR-GENERATOR-REGULATOR TEST STAND

NAME

ADDRESS

CITY STATE

Dealers Can Lick Inventory Challenge

continued from page 155

ventory is entitled to consideration over the special-order customer. Many dealers put the shoe on the other foot—the special order customer gets the best deal—which may explain why customers balk at buying out of inventory.

The prevalent practice is to charge the inventory buyer a little more than the special order customer to recoup inventory expense. The special order customer, on the other hand, frequently gets off cheaper because his car entails no floor planning or inventory charges. This makes automobile retailing one of the few fields where a ready-made costs more than a tailor-made.

If there is a difference in price, the special-order customer should pay the premium. It is not enough to observe such a policy. Customers should know about it and dealers should merchandise the fact that a car out of stock sells for less than a comparable vehicle ordered from the factory.

Price Impresses Prospects

Some dealers who run highly successful operations by selling out of inventory have found a way of impressing customers with the price advantage of buying off the floor. The prospect is invited to specify what he wants in the way of model, body style and options without any up-sell by the salesman.

The salesman arrives at a price based on the factory list. The customer is then directed to a similar car on the floor whose price is substantially below that quoted for the special-order vehicle. The salesman does not go into details as to how the discounted price was arrived at. If the concession on the floor model is realistic, it will not take much of a sales talk to convince the customer his best buy is the inventory car.

Dealers might as well face up to a couple of the facts of life they will have to reckon with in the coming model year:

1. No matter how many cars dealers stock, be it 1,000,000, 2,000,000 or 5,000,000, they cannot inventory enough of a variety to please every prospect.

2. Retailers who want to make money on their hog-size inventories in 1962 will cut down on special orders and sell more merchandise out of stock.

The dealer who tries to carry an oversize inventory on one shoulder and fill special orders off the other is courting financial rupture.

THE END. NOW TURN BACK TO PAGE 40

Doctors Back Belts

The National Safety Council, the American Medical Assn. and the U.S. Public Health Service, together with several co-operating organizations, have launched a massive education campaign to persuade every American automobile owner to install and use seat belts in his car.

The theme of the advertising and publicity programs is, "Seat Belts Save Lives."

There's a **WALKER JACK** for every job

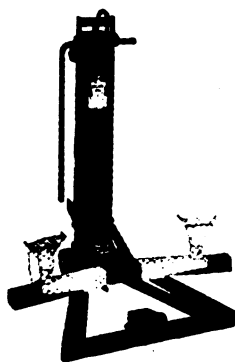


America's No. 1 jack for shop service

Designed, and easy to handle, the J 882 "Greyhound" car jack combines outstanding performance features at a price any shop can afford. Has ample chassis

length for dollying. Delivers smooth, dependable lift from a "Gold Seal" power unit—the finest hydraulic jack power mechanism ever developed. Capacity 2

WALKER JACKS do every job better



WALKER No. J 99 "HANDY BOY" JACK AND LIFT
 The end lift for both compact and standard models light trucks, too. High-height adjustable swivel saddles and Variable Bumper service. Fast, smooth action speeds all services.



NEW J 809 "RANGER" Bipod Bumper Jack. Economical, trouble-free lifting.



J 44 UNI-CRADLE
 Low-effort floor type transmission jack.

PORTABLE HYDRAULIC JACKS
 Series J 900—1½ to 20 tons capacity. Heavy duty 50 to 100 tons.



J 700 "HI-BOY"
 Spring, shackle, exhaust-system service.



WALKER MARKETING CORPORATION
RACINE, WISCONSIN

"Salt spray" test shows Champion's new silvery plating is a spark plug's best protection against rust!

Champion's superior rust protection was developed for—and proved on—the millions of military aircraft plugs made by Champion. Later offered on special Champion marine plugs, this rust-resistant plating is now a standard feature on *all* Champions. And while manufacturing costs are higher—there is no increase in price! It's another example of the outstanding quality you get only from *Champion*—the spark plug specialist . . .

All spark plugs—regardless of color—are "coated" to protect their metal shells from rust. Without this protection, plugs would be rusty long before you receive them.

But all "anti-rust" processes are *not* equally effective. Far from it! As the pictures and captions on the opposite page show, no matter how severe the test, Champion's silvery zinc plating is far superior to the old-fashioned blueing in preventing rust. In this test, a mixture of salt and steam was sprayed on the metal surfaces. (And you've seen plenty of evidence of the damage salt can do to metal.)

While this was an extreme test, even under "normal" conditions the blue coating is often not effective. Blue plugs sometimes rust on dealers' shelves, or in the engines of new cars in showrooms. To

prevent this, Champion began using the silvery zinc plating process. For the past two years, all Champion automotive spark plugs have come from the production lines with this highly effective rust protection.

To give you and your customers this superior rust protection takes a manufacturing process that is more complex and expensive than that for blue coating. Material costs are higher. It requires a greater investment in equipment, more working area—and more production time. (A full plating cycle for the new Champion process takes 65.28 minutes, compared to only 29.96 for the blueing.) Yet Champion offers it at no extra cost!

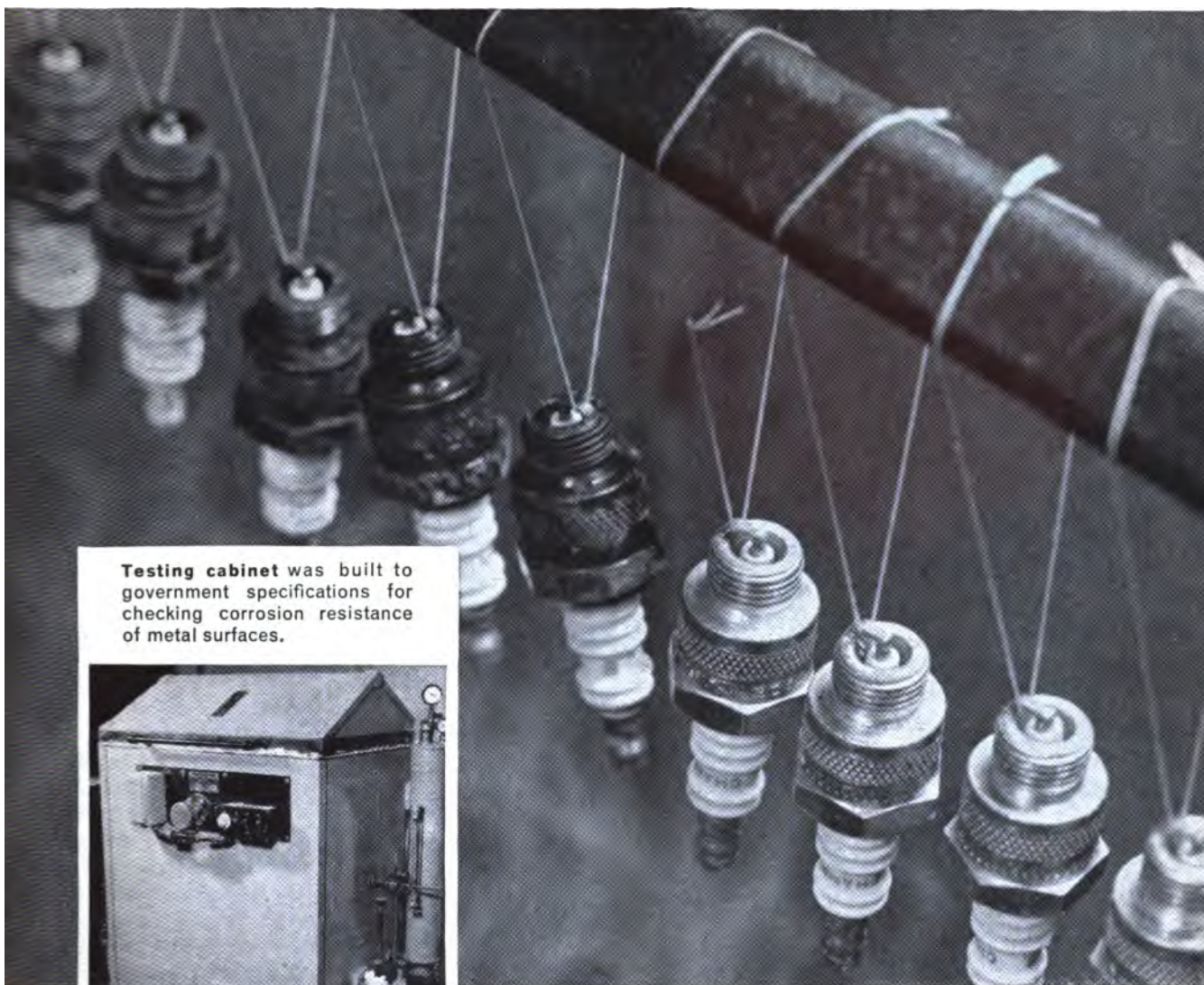
It's another important example of how Champion—the spark plug specialist—works to bring you and your customers the world's finest spark plugs. And it's another reason for recommending and installing *Champion* spark plugs in *all* cars!



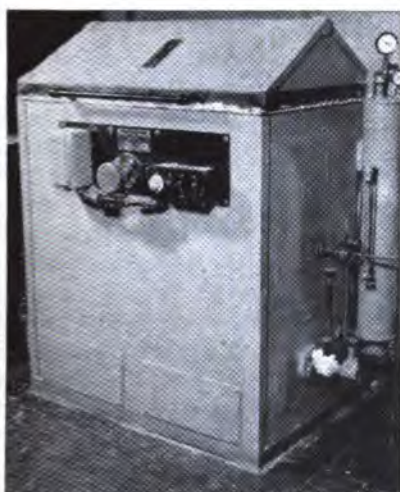
Developed to meet military aircraft standards for rust protection, Champion's silvery plating has been proved on millions of aircraft spark plugs, in military, commercial and private use.



This superior plating was next proved on a premium-priced line of marine plugs that is now Champion's standard marine line, at regular prices. As on all Champions, you pay no more for this protection.



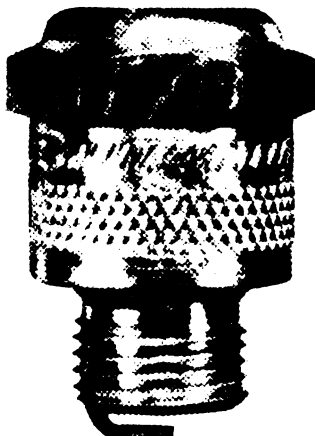
Testing cabinet was built to government specifications for checking corrosion resistance of metal surfaces.



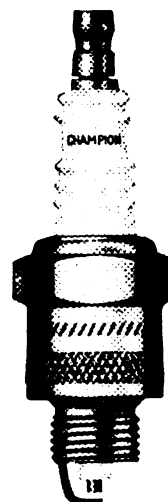
Inside special cabinet, spark plug shells with old-fashioned blue coating and others with Champion's silvery-colored zinc plating were soaked with a steaming salt spray that quickly rusted the blue plugs (rust showed in 30 minutes) but did little damage to the silvery Champions, which showed no rust even after 100 hours!



After only 30 minutes in the salt spray bath, the plugs with the blueing showed signs of rust. After just 2½ hours of exposure, they looked like this.



For 100 hours, silvery-plated Champions endured the corrosive salt spray before any rust appeared. The photo was taken after 120 hours in salt spray bath.



Salesmen Must Be Prepared to Sell

continued from page 45

man's preparation for an appointment is to "set the stage" for the sale before the customer arrives. He should park the car in a special place a little apart from the others—a place where he can point it out in advance and walk up to it with his prospects. Let them be able to admire it—without distraction—as they approach the car.

Love at first sight makes the selling job so much easier.

Be certain, too, the light is just right to show the car off to its best advantage. Some cars can take a better light than others, so pick the "stage lighting" carefully.

If it is a convertible, put the top down and the top boot on. People buy convertibles because the top comes down; so show them the car that way. If it is a hardtop, roll down all the windows so they can see how stylish it looks. Last but not least, it won't hurt to get a soft

rag and dust the car off a little. It gives you a good chance to inspect the car carefully for the last time and, if the boss or the customer sees you doing it, I am sure it will not hurt you in the least.

Now, when the customer comes in, you are prepared. You *know* everything is right and that you have the right answers. You can't help but go into your selling with self-assurance, confidence and enthusiasm that will carry over to your prospect and make closing the deal so much easier.

Another way of being prepared for the daily selling routine is to keep a list of cars that could be sold if you had them. Keep this list separate and in a prominent place where you will see it every day as you make up your work sheet. Look ahead at the sales you have closed and at the cars you are going to take in trade on those deals.

Has Inside Track

Consider those coming trades as your own private gold mine. They are cars you have an "exclusive" on until they come into stock. Often, you will have several days or a week to check them against your list of "cars wanted" or to find a prospect for them. On these cars a salesman has the field to himself and he can work without competition. It is a most happy feeling to be able to hang a "red tag" on a car the minute the plates come off when it is traded in.

Also, with this type selling a salesman can pyramid his sales. The more cars he sells, the more

E-815 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

E-487 FOR FORD TRUCK
CARBURETOR TUNE-UP KIT

E-914 FOR FORD MUSTANG
CARBURETOR TUNE-UP KIT

E-1505 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

E-1205 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

E-1104 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

E-233 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

E-129 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

E-315 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

E-407 FOR FORD TRUCK
CARBURETOR TUNE-UP KIT

E-314 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

E-408 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

E-502 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

E-504 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

E-607 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

E-610 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

E-612 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

why not stock
and sell the
**COMPLETE
LINE**
of Carburetor
Tune-Up Kits?

There's a PACCO Kit to
fit most American cars,
standard and compact,
and all popular foreign
makes.

There are PACCO Kits for
air-cooled power mower
engines, outboard motors
and stationary engines.

**ASK YOUR
PACCO SUPPLIER**

PACCO

**CARBURETOR
TUNE-UP KIT**

E-1801 FOR FORD MUSTANG 1965-66

E-126 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

E-801 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

E-118 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

E-111 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

E-120 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

E-801 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

E-118 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

E-716 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

E-323 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

E-231 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

E-216 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

E-319 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

E-109 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

E-122 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

E-121 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

E-716 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

E-713 FOR FORD MUSTANG 1965-66
CARBURETOR TUNE-UP KIT

PRECISION AUTOMOTIVE COMPONENTS COMPANY
Manchester, Mo.



"Hooray, we've struck oil!"

MOTOR, August 1961

trades he knows of in advance. And the more trades he knows of in advance, the better chance he has of selling them. In this manner, a salesman can often follow the chain of his own trades right down to the end.

Creates Confidence

With these cars, a salesman can say, "I took this car in trade personally and I know the people who owned it." There is no stronger statement to create confidence in selling a used car.

The final step in preparing a daily work schedule is the study of factory facts books, equipment option charts and trade journals. If a man has a few minutes waiting for an "up," why waste the time in a bull session or sneaking out for coffee? He can take this opportunity to pick up an automotive journal and read a few of the articles. He can always lay it down if someone comes in, and he will keep himself informed on what is going on in his industry.

It is helpful to be able to say, "Yes, I was just reading about that recently and did you know that they are also going to . . ." This will help his confidence, confirm his authority to his customer, and give his statements added weight.

THE END. NOW TURN BACK TO PAGE 46

Chrysler Opens Centers To Service Teachers

Chrysler Corp.'s training centers in the U.S. will be open this summer to high school, vocational school and college instructors in automotive maintenance who wish to update their knowledge of motor vehicle components.

The two-week automotive workshop is offered without tuition.

Tour Data Automatic

An electronically automated travel-question-answering device has been installed at Cities Service Co.'s station near Woodbridge on the New Jersey Turnpike.

The device, called the "Directorat," prints and issues travel information at the mere push of a button. The answer to any one of 120 pre-set questions is provided within seven seconds. Answers are printed on small slips of paper.

Air Filter Sales Steady At This Station



Telling and selling need for new air filter is Bob Ohler, Ohler's service station, Washington, D.C.

The advent of paper air filters some five to six years ago was a boon to service shop operators. One operator who has profited handsomely is Robert Ohler, vice president of Ohler's service station in Washington, D. C., which sells about 40 new units a month.

Ohler says, "It's not hard to sell air filters, if you explain matters to the customer. First, show him the clogged filter. Then, put it on a demonstration device that lights up, revealing the dirt. Show it to the customer and then compare it with a new element. Finally, explain the function of the product."

At Ohler's, customers are asked, "Has your air filter ever been serviced?" or "Has it ever been replaced?" A negative reply is the cue for Ohler to begin his sales pitch.

NADA Honors Sloan

The first recipient of the National Automobile Dealers Assn.'s "Order of the Golden Wheel" was Alfred P. Sloan, Jr., honorary chairman of the General Motors board of directors. The award was established last year by NADA to honor outstanding individuals in the automotive industry.

Repairmen Change Name

Garagemen in the Flint, Mich., area have changed the name of their organization from the Automotive Maintenance Assn. of Genesee County to the Automotive Service Assn. of Genesee County. M. Jaksa is president.

FREE!

FOR DEALERS WHO SELL FAMOUS FRAM "WEAR-GUARD" FILTERS

96 GIFT CERTIFICATES
(Free with 96 Doz. Cartridges)



BOLEX 8mm. MOVIE CAMERA—

Famous camera complete with pistol-grip handle is just one of the many nationally advertised gifts you can get ABSOLUTELY FREE in FRAM'S MILLION \$\$\$ GIVEAWAY. Gifts are your reward for selling Fram "Wear-Guard" Filters—today's fastest moving filters—proved to trap up to 40% more dirt than any other filter tested.

STOCK UP ON FRAM FILTERS GET FABULOUS FREE GIFTS!

With every 24 Fram Filters you buy, your supplier gives you 2 Free Fram Gift Certificates. Redeem them immediately or save them for gifts of higher value.

CLIP COUPON AND MAIL TODAY!

.....

• **FRAM CORPORATION** •

• DEPT. MG •

• Providence 16, R. I. •

• I want to get my share of Fram's Million \$\$\$ Giveaway. Please send me catalog of free gifts. •

• NAME _____ •

• ADDRESS _____ •

• CITY _____ ZONE _____ STATE _____ •

• MY SUPPLIER'S NAME IS _____ •

• •



New fast acting penetrant and rust solvent... saves time, trouble, money and tempers. Available in pressurized cans or regular pints and gallons. Sell it once... reorders keep coming in.

Publication advertising, point of purchase displays and descriptive literature help you sell NUTS OFF.



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P.O. Box 1988 • Camden 1, N.J.

AMES



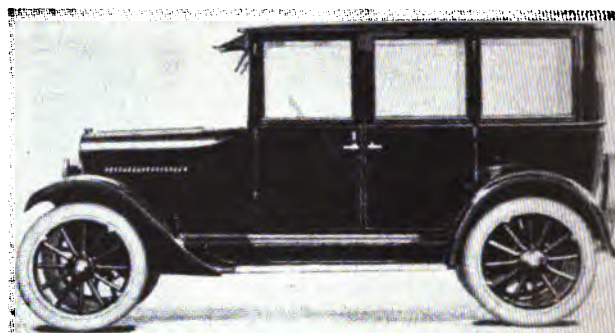
Ask your Jobber or write to

B.C. AMES CO.

57 Ames Street, Waltham 54, Mass.

MANUFACTURER OF MICROMETER DIAL GAUGES AND MICROMETER DIAL INDICATORS

Can You Name It?



An early version of one of today's favorites, this sedan was powered by an air-cooled engine. Each cylinder was surrounded by vertical loops of copper in the form of hollow fins. A suction fan provided the air circulation. Price of the model shown was \$1,060. Can you name the make and year? Answer is on page 181.

Capital Close-Ups

continued from page 47

Deploras Poor Salesmanship

In speeches at various automotive dealer conventions, Sen. Barry Goldwater (R., Ariz.) frequently mentions that in 20 years "I have had only two automobile salesmen approach me." He commended Secretary of Commerce Luther Hodges for his recent magazine appeal for better salesmanship, saying, "American business has just forgotten the importance of selling and I am sure feels that all that is needed is an acceptable advertising campaign and fancy pictures. Nothing can top an American salesman who wants to sell."

Sen. Goldwater, a department store owner in private life, told of a test he makes when he visits strange cities. He goes to the cosmetic counter of a department store, orders razor blades, and offers a \$5 bill in payment. He will buy anything up to that amount which is suggested by the clerk. He reports that in countless tests of this sort across the nation over the past 10 years, only twice has a sales person got the whole \$5. He calls his experience "a sad commentary on selling."

Army Tests Tires

Use of a vinyl filler will produce a stronger-wearing tire, the Army has concluded after a two-and-a-half year study in cooperation with U.S. Rubber Co. Findings of the study were made public in an Army research report issued by the U. S. Dept. of Commerce.

Automobile and truck tires manufactured with a vinyl filler, rather than the conventional carbon black filler, have shown lower rolling resistance and less power loss. Because of the poorer heat conductive properties of the plastic compound, however, road tests indicated that the vinyl-tread tires tend to become somewhat more overheated than regular tires. This disadvantage can be overcome by use of a

vinyl filler with improved abrasion resistance qualities, researchers pointed out.

Shorts

Chrysler landed a near-\$3,000,000 contract from the U.S. Post Office Dept. for 1,751 trucks. Production is due to start October 1 in the Dodge plant at Warren, Mich. . . . SEC records reveal plans of Amphicar Corp. of America to market the amphibious German car in the U.S. Plans call for importing 25,000 Amphicars by May 31, 1963. Retail price for the 14 ft., 43 hp car is expected to be \$3,395. . . . Inter-American Development Bank has loaned a Brazilian firm \$750,000 to expand production of forgings to be used in the Brazilian automobile industry.

THE END. NOW TURN BACK TO PAGE 48

School Guide Revised

Automobile Manufacturers Assn. has published a new edition of its guide book for automotive service instruction in schools. First published in 1951 and revised in 1956, "Standards for Automotive Service Instruction in Schools" identifies good practices and establishes helpful directives for schools providing instruction in the field of automotive mechanics and teacher education.

The book offers advice on such subjects as opportunities in the automotive service industry, student guidance, setting up of shops and buildings, lists of necessary supplies and equipment.



NOW! AT YOUR NEWSSTAND
Another special-interest book from

POPULAR MECHANICS

POPULAR MECHANICS Shop Projects

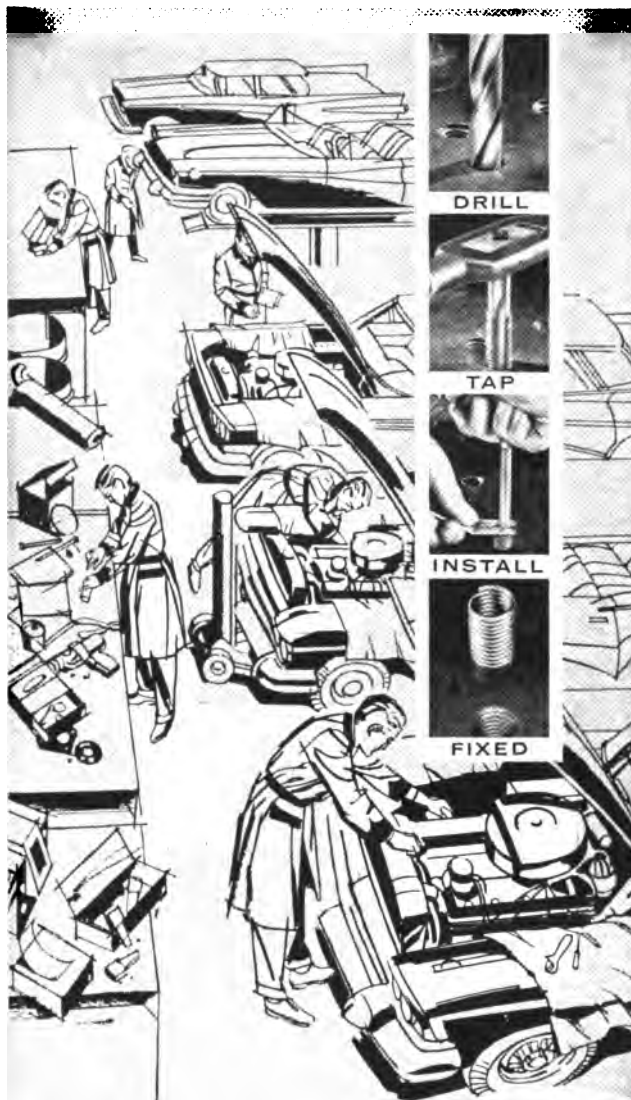
Build PM's Family Hobby Center

Working area and storage space for everything from mom's sewing to junior's models . . . even dad's portable power tools. Complete plans and how-to details on this and dozens of other useful projects.

Plus articles on using

- TWIST DRILLS
- WOOD CHISELS
- SABER SAWS

NEW SIZE!...NEW FEATURES!



Repair Stripped Threads ...even in Aluminum FOR MORE SERVICE PROFITS!

Make thread repairs in minutes, for only pennies per hole. Use **HELI-COIL®** Stainless Steel Wire Screw Thread Inserts to restore threads to original dimensions . . . no need to change screw sizes! Permanently prevent wear, stripping, corrosion, galling and seizing. Provide lifetime protection to tapped holes in all metals . . . even in aluminum, magnesium and other light materials.

HELI-COIL EZY-KITS contain individual EZY-PACKS of inserts in selected sizes, plus installation tools. Popular combinations for all car and truck engines, in all thread series and sizes. MM sizes in all reaches for spark plug ports, and inserts for taper pipe threads also available.

For descriptive literature, including Metric and Whitworth Thread Conversion, and name of your **HELI-COIL** jobber, write . . .

2000



HELI-COIL CORPORATION

4608 Shelter Rock Lane, Danbury, Conn.

In Canada: ARMSTRONG BEVERLEY ENGINEERING LTD.
6976 Jeanne Mance St., Montreal 15, Que.

Offer Quality Front-End Service

continued from page 51

the drums should be inspected for broken fins, since the absence of fins will upset the brake drum balance. If this condition is found, replace the drum.

On cars with the large spinner or ornate-type wheel covers, unbalance can be caused if the mounting of the spinner is off-center from the exact center of the

wheel cover. Even a damaged cover can upset the balance. Should an owner complain of steering-wheel tremors or vibration, it is a good idea to road-test the car with wheel covers removed to note any improvement and determine whether wheels and tires are at fault, or whether the complaint is due to the wheel cover.

Wheel balancing, of course, will not correct a bent wheel. This condition is not always as obvious to the owner or repairman as the thump produced by an out-of-

round tire. Adding weights to a rim having considerable lateral runout will usually cause a severe unbalance of the wheel and shimmy or tramp.

The most accurate check of lateral and radial runout of a wheel is made with a dial indicator positioned against the vertical and horizontal rim surfaces. Since lateral rim runout is more common, due to the fact that wheels continually bump against curbs and other obstructions, each rim should be checked for this condition with a pointer or indicator. If necessary, the condition should be corrected with suitable wheel-straightening equipment before the wheel is balanced. One-sixteenth to $\frac{1}{8}$ in. should be considered maximum allowable lateral runout. Radial runout, or the allowable out-of-round of the rim, should be within .050 in.

Use Dial Indicator

Wheel balancing will not correct or compensate for thump caused by an out-of-round tire. This usually occurs in the 20 to 45 mph range. When a dial indicator is used to check for tire radial runout or a high spot on the tire circumference, any deviation in the circumference should not exceed .100 in.

An alternate road test to determine which tire is at fault may be used with each tire inflated to 50 lb. pressure, car windows closed and the car accelerated and maintained at constant speeds within the approximate 20 to 45 mph limit. If a thump is still audible with tires overinflated, the source is the driveline or other mechanical factors rather than the tires. If thumping is no longer heard, the tires are deflated to normal pressure, one at a time, to determine which one is at fault.

Out-of-Round Tires

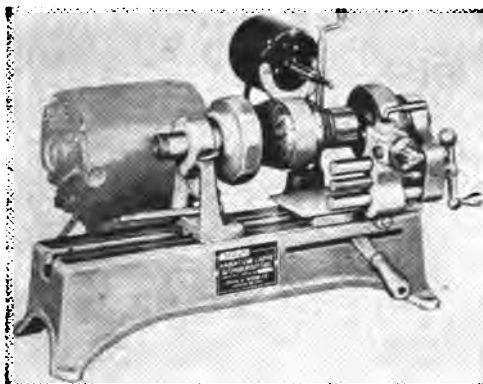
In most cases, out-of-round tires can be corrected with tire-truing equipment, in which the tread rubber on the high side of the circumference is ground or trimmed off to provide true concentricity of the tire.

A low-speed shimmy in the approximate range of 10 to 30 mph, or one that occurs at low speeds

[CONTINUED ON PAGE 166]



Especially designed for automotive repairs! TRUCUT equipment saves work, saves time, means better earnings for your shop. Adds extra profits, too, by enabling you to handle jobs you now send out. Many other items besides those shown here. See your jobber.



TRUCUT ARMATURE LATHE WITH
MOTORIZED UNDERCUTTER

Machines and undercuts commutators perfectly, without time-wasting set-up or adjustments. Motorized undercutter is simple, durable, accurate, yet gives the greater speed and convenience of direct motor drive.



TRUCUT ARMATURE TESTER

0 to 30 Ampere meter and double test prod for opens and shorts. Test circuit with single probe and ruby light for grounds. Durable, attractive metal case.

TRUCUT FORD
BEARING PULLER

Removes generator bearings on Ford, Mercury, Lincoln easily, without breakage.



NO-MAR
ALUMINUM HAMMER

Specially treated aluminum alloy. Strikes solid blow with minimum rebound. Will not harm even the machine surface. Non-chipping, non-sparking. 3 sizes.



FRANK N. WOOD CO.

SINCE 1933

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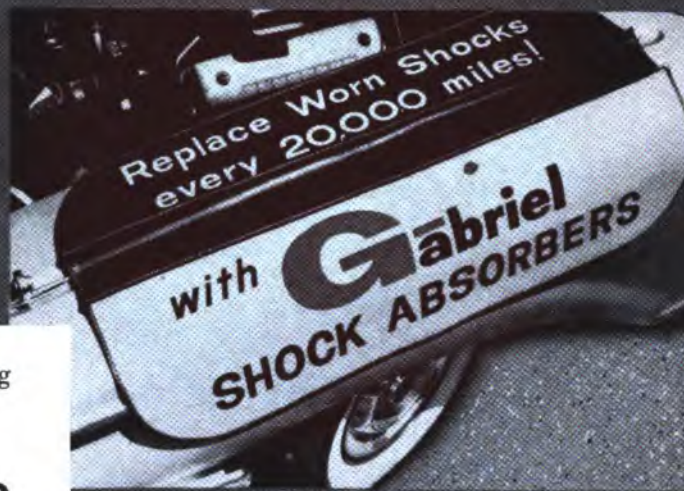
344 W. Main St.

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FREE FENDER COVER

Regular \$6.45 value

Features ridges on crown to hold small parts and tools. Oil-resistant neoprene top surface. Non-slip sponge rubber back.



... with six pairs of the fastest-selling
Gabriel Hydrosbox
Shock Absorbers

PAY ONLY **\$ 63.60**

SELL THEM FOR **109.80**

YOUR PROFIT 46.20*

*Plus profit on labor

FREE DISPLAY

Puts shock absorbers right out front where your customers can see them. Message on front helps sell them on Gabriel.

FREE SALES KIT

Includes window display, check tags, wall chart, and service manual that shows you how to make installations easy.



Get the complete story on this *Dealers' Dozen Deal* from your jobber now! Start cashing in on the booming shock absorber business.

THE GABRIEL COMPANY

Cleveland 15, Ohio

Gabriel of Canada, Ltd., Toronto 14, Ontario



Offer Quality Front-End Service

continued from page 164

after passing over bumps or rough pavement, is usually an indication of loose or worn linkage parts or wheel bearings. If a wheel, tire and drum assembly is found to be loose, a quick method of pinpointing the wheel bearings or the ball joints or kingpin as the cause of looseness is to place a thumb or finger between the edge of the hub

and the edge of the flat washer of the bearing nut. If a pinching movement can be felt between the hub and washer as the wheel is moved in and out at the top, the hub and drum are loose on the spindle, indicating that bearings are at fault. If no movement is felt, the spindle support, wheel bearings and brake drum are moving as one assembly, indicating looseness in the ball joints or kingpin bushings.

Correct wheel-bearing adjustments play an important part in

providing smooth riding and handling. On Chrysler Corp. cars, the adjustment is locked by a nut lock. A revised adjustment procedure for these cars calls for tightening the adjusting nut to $7\frac{1}{2}$ lb.-ft. or 90 lb.-in., then positioning the lock over the nut with one pair of slots in line with the cotter-pin hole. The lock and adjusting nut are then backed off to the next slot for cotter pin installation. Bearing end play following the adjustment should be zero to .003 in.

While most servicemen are familiar with the basic tire-wear patterns indicating overinflation, underinflation, excess camber and toe-in, there are some varieties of tread wear which are not as common. These may make diagnosis more difficult. These patterns, however, can provide helpful clues as to the owner's driving habits or the need for front-end correction.

Patterns Are Clues

A pattern showing considerable wearing or rounding off of the tread shoulders, usually accompanied by a series of gratelike abrasions across the shoulder, indicates high-speed cornering. A heel-and-toe or sawtooth wear pattern around the circumference of front tires is an indication of harsh brake applications. This is not commonly found on rear tires. Both these conditions are due mainly to driver abuse, and the only feasible correction is to advise the driver.

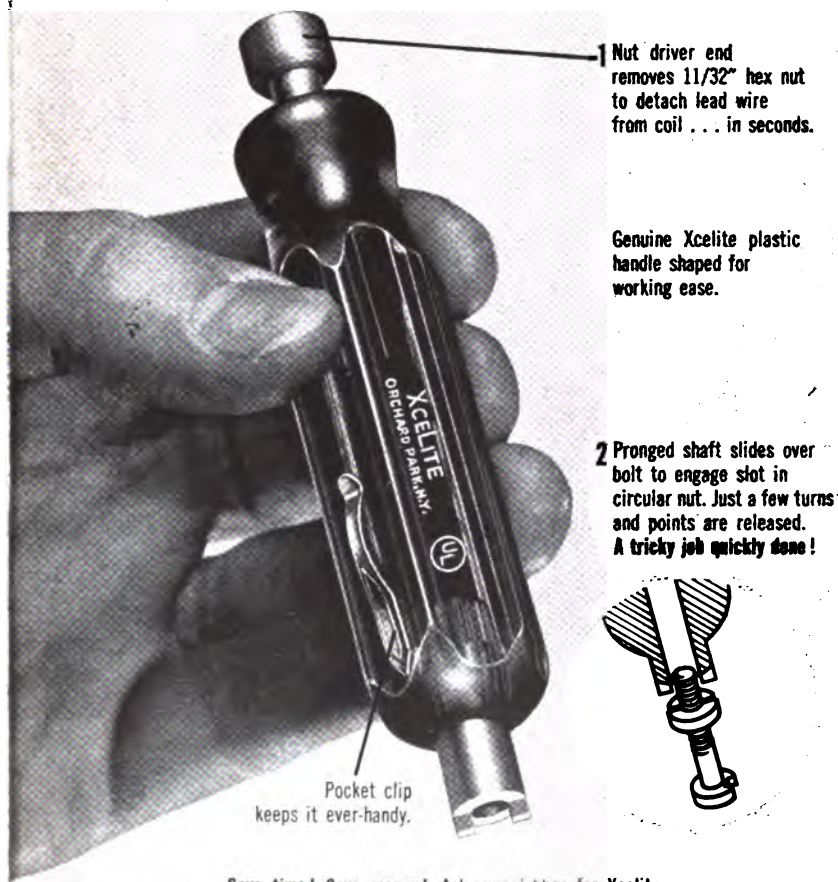
A featheredge front-tire pattern resembling excess toe-in wear, with the exception that the outer edges on one tire and the inner edges on the opposite tire are worn, indicates incorrect toe-out on turns, causing the inside wheel on a left or right turn to scuff through the turn. Correction here usually calls for replacing one or both steering arms to obtain correct toe-out geometry.

Tracking Gauge Check

Repeated wearing of tires on either front wheel which resembles excess camber wear after camber and caster have been set within specifications indicates a bent spindle or that the spindle support and control arm assemblies on the affected side have been pushed back. The bent spindle or support will

2-in-1 tool speeds adjusting and replacing Delco distributor points

FOR CHEVROLETS, ETC.



Save time! Save money! Ask your jobber for Xcelite
No. 110 Distributor Tool today.

XCELITE, INC. • ORCHARD PARK, N. Y.

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XCELITE

be indicated by a kingpin inclination check. A tracking gauge check is the best method to determine if the knee or control arms are pushed back.

In diagnosing hard or binding steering complaints, or when checking steering linkage for looseness and wear, consideration should also be given to bent or misaligned linkage members which place undue mechanical strain or bind on other parts of the linkage and steering gear.

Prevents Binding

On 1961 Buick power and manual steering linkages, in which the rod between the pitman and idler arms has a threaded plug and spring-loaded ball seats at the pitman arm end, the idler arm bracket should be positioned on the frame so that the lower bracket bolt is 3 in. plus or minus $\frac{1}{16}$ from the top of the idler arm. This positioning is necessary to align the idler arm end with the pitman arm end thus preventing binding of the intermediate rod and tie-rods.

THE END. NOW TURN BACK TO PAGE 51

Dealer Group Managers Elect Henneberger



Otto P. Henneberger

Otto P. Henneberger, business manager of the New Jersey Automotive Trade Assn., has been elected president of the Automotive Trade Assn. Managers.

Meeting at Portsmouth, N.H., last month, the managers elected Herman Schaefer, manager of the Automobile Dealers Assn. of Indiana, as vice president. William W. Egelhoff, secretary-manager of Motor Car Dealers Assn. of Greater Kansas City, was re-elected secretary treasurer.

California IGO Names Bailey

New president of the Independent Garage Owners of California is Ernest J. Bailey, of San Diego. He had been secretary.

Cary W. Jackson, of Ventura, was named first vice president at the recent annual convention at Sacramento. Paul R. Reeder, of Glendale, became second vice president and Roy A. Memeo, of Santa Rose, was elected secretary.

The convention, attended by 236, adopted resolutions urging a state-conducted program of periodic vehicle inspection, the earmarking of federal automotive taxes for highway construction and maintenance, and passage of the Celler bill, which would divorce finance and insurance companies from automobile manufacturing firms.

Seek New Signal System

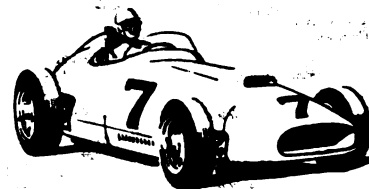
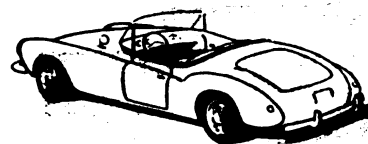
A new automotive safety signal that increases daytime visibility of vehicle signal lights without making them too bright at night is being developed by U.S. automobile and lamp manufacturers.

The joint traffic safety project, announced by the Automobile Manufacturers Assn., involves a new system of "dual intensity" applied to rear turn and stop signals. Daylight brightness of signals in the new system is two to four times higher than those in present use. When headlights are turned on, rear signal brightness is lowered to prevent uncomfortable glare for following drivers. Front turn signal intensity is not lowered at night since these lights must be seen against the brightness of headlights.

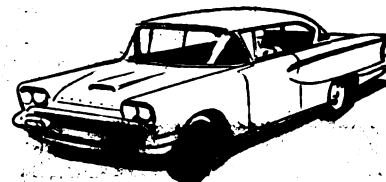
Safety Bills Bog Down

According to the Motor and Equipment Manufacturers Assn., lack of interest and progress has characterized vehicle safety inspection bills in 1961. The only state to enact a periodical inspection law is Hawaii, and it applies only to commercial vehicles.

Lack of results, the MEMA maintains, indicates the need of more intensive educational work at the legislative level.



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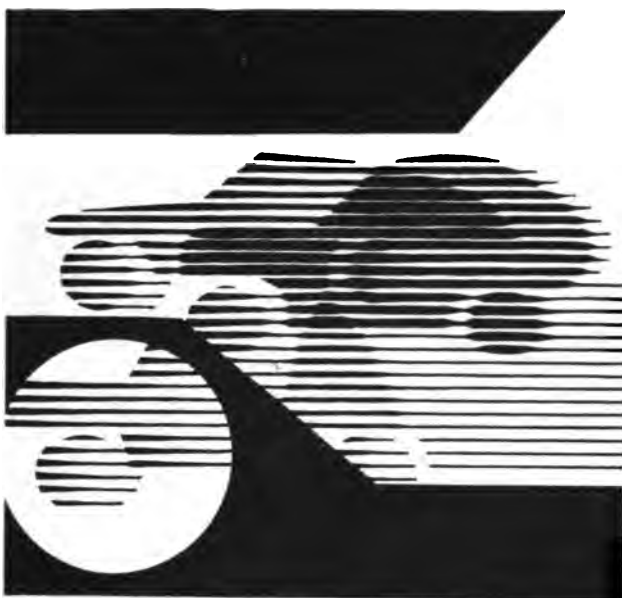
D-A SPEED-SPORT OIL is specially formulated for sports cars, foreign cars, hot rods—all high-performance, high-rpm engines. Your oil profits will zoom when you recommend and sell D-A Speed-Sport Oil and satisfied customers will come back again and again to you for repeat sales!

This premium-quality, premium-profit oil can help you capture a big share of the high-performance engine lubricating market. Write for full details on how to become a D-A Speed-Sport Oil distributor.



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 October 1st 1961
Frankfurt/Main (Germany)

Verband der Automobilindustrie e.V. (VDA) Frankfurt/Main

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Just use the new

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 to disassemble and assemble U-joints
EASY • SAFE • AND FAST

PULLZIT does the complete job of disassembly and assembly with no hammering, no dangerous slips, no damage to bearings—lets you complete the toughest U-joint service job in 20 minutes!

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\$29⁹⁵

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No other tool can do the job like PULLZIT

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Datsun Offers Pickup



New from Japan is Datsun's 1/2-ton pickup truck, which is powered by a 60 hp, 4 cyl. overhead valve engine. Vehicle has 25.8 sq. ft. of load space, carries 2,400 lb. with overload springs

What Detroit Is Thinking

continued from page 41

strong following with dealers. This factor counts big in management moves at Chrysler because the company is concerned about holding its dealer strength until such a time as it can recapture lost ground.

Erroneous but Helpful

Many dealers who have come into Detroit for previews in recent weeks have expressed surprise at the changes, mostly visual, made on new models. The reason the cars look better than dealers expected is because of the pap that gets printed for a couple of months before new model time.

It has become fashionable in recent years for certain journalistic paratroopers to land on Detroit, do a day's hustling and then go home to knock out a couple of thousand words about the new models being warmed-over versions of the previous year's merchandise. This claptrap gets in print where dealers and the public see it. This has been going on for several years.

Erroneous as they are, the stories actually aid dealers in a way. Customers jump to the same conclusion as dealers—there's nothing new next year. Then when the new models come out, customer attention is jolted by the discovery that the cars do contain new features, contrary to the fiction they have read.

More Dualing Discouraged

Detroit will seek to discourage dealers from further dualing of brands in the new model year, although retailers already representing a mix of makes are safe enough. Except in the rare instance, they will not be asked to surrender conflicting franchises. The factory argument will be that the multiplicity of makes now available under a single franchise obviates the need for dualing. This will not be a high pressure campaign, but manufacturers will try to sell the idea on the soft pedal.

Ready to Fight

Factory executives are deeply concerned, a lot more so than they let on, over the recent Washington hearings aimed at divesting [CONTINUED ON PAGE 170]

is is—
wix-O-MATIC



For Those Who Sell Filters... and Want to Sell MORE!



WIX Oil and Air Filters are built to give the car owner extra value and greater engine protection...WIX-O-MATIC, the soundest merchandising system in the filter industry, gives you more sales and bigger profits. This statement is proved by thousands of dealers who know from first-hand experience how WIX-O-MATIC stimulates sales and stops losses.

With WIX-O-MATIC you never lose sales by "being out of" the filter you need...you never lose money because of excess inventory or obso-

lete numbers. And—sales are made quicker! With the Dial-O-Matic Cartridge Selector you can tell at a glance what filter is needed for any American-made car or light truck that drives in—most foreign cars, too. WIX-O-MATIC is available with wall racks for small stocks and floor cabinets for more active locations, and you get both FREE.

Get all the facts on WIX Oil and Air Filters and WIX-O-MATIC merchandising from your jobber, or write direct. Do it today.

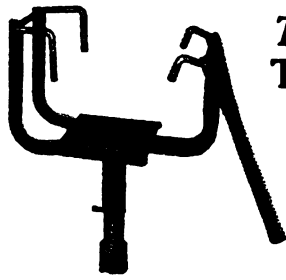
WIX CORPORATION • GASTONIA, N. C.

In Canada: Wix Corporation Ltd., Toronto

In New Zealand: Wix Corp. New Zealand Ltd., Auckland

better tire service . . . **bigger PROFITS**

Bishman TIRE SERVICE EQUIPMENT

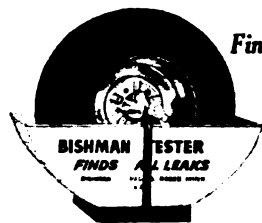


TIME SAVING TIRE SPREADERS

Low Cost, Universal Tire Spreader fits all tire changer center posts 1 1/4" through 2" diameter. Spreads all tires through 19 1/2" for quick, thorough inspection. **BISHMAN #861 Tire Spreader.**



EYE LEVEL. Air Power Tire Spreader puts the tire up where you can see best for inspection and repair. Operates off regular air line, spreads and inverts. Foot controls free both hands to handle tire and make repairs. Better inspection sells more tires, better repairs bring customers back. **BISHMAN #426 Eye Level Tire Spreader.**



Find Leaks Easier . . .
Test Repairs Faster . . .

Bishman TUBELESS TIRE TESTER

Tire rotates on arbor . . . water stays clear . . . smallest leaks are in tread, sidewall, bead, valve or rim are easy to spot. Test tubes, too. Aluminum or galvanized tank. **BISHMAN #856 Tubeless Tire Tester.**

Ask your Automotive Equipment Jobber or write for Catalog 61 describing the most complete line of tire service equipment.

Bishman MFG. CO.,

Route 2,
Osseo, Minnesota

"Premium Tire Styling At Low Cost"



PORT-A-WALL TOPPER



Bearfoot's exclusive black and white attachable sidewall gives you new profit opportunities. Your initial order for a 3 set assortment comes in this free, self-contained display. See your jobber now!

**BEARFOOT AIRWAY
CORPORATION**

AUTOMOTIVE DIVISION • WADSWORTH, OHIO



What Detroit Is Thinking

continued from page 168

car makers of their finance subsidiaries. Detroit is prepared to fight this one to the end, but no one will bet on the outcome.

Appearance at the hearings of a Chrysler executive, who spoke in favor of factories being in the finance field (despite the fact that Chrysler does not have a credit subsidiary), came as no surprise in industry circles. One of Chrysler's long-range goals has been formation of its own finance organization.

Landmark Falls

The car was from a time when a franchise between factory and dealer consisted of a handshake. You could get in the production end of the business in those days for less than it takes to open a dealership today. This particular car was called the Rickenbacker. It was made in a wooden building on Cabot St., on the west side of Detroit.

Capt. Eddie Rickenbacker, the World War I aviation ace, was president of the company. He and three associates built their first car in 1920. Then Rickenbacker, a national hero in the same league with Jack Dempsey, Gertrude Ederle and Rudolph Valentino, drove it around the country drumming up public interest and lining up dealers.

The first production model came off the line in January, 1922, the last one in 1927.

The building that housed the company's administrative offices was razed last month. The last thing to fall was an arch in front of the building. It had Rickenbacker's emblem on it, a hat in the center of a ring.

It was something you could point out to the visiting firemen. But not any more.

THE END. NOW TURN BACK TO PAGE 42

Army Orders 19,232 Vehicles

Contracts for production of 19,232 vehicles were placed with the automotive industry during June by the U.S. Army. The contracts, totaling \$92,864,905, called for 8,843 2 1/2-ton trucks, 7,453 3/4-ton trucks, 1,050 1-ton trucks, 447 dump trucks, 289 5-ton trucks and 1,150 1/4-ton ambulances.

Orders were also placed in June for multi-fuel engines, Diesel engines and power train assemblies totaling \$23,431,124.

Rubber Consumption Rises

Rubber consumption in the United States during June amounted to 128,850 long tons, as compared with 125,848 long tons consumed in the preceding month, according to a report by Rubber Manufacturers Assn.

Consumption of all types of synthetic rubber consumed during June amounted to 93,200 long tons, as compared with May's 90,564 long tons. Consumption of natural rubber amounted to 35,650 long tons, up slightly from May's 35,284.



BRAKE PARTS ASSORTMENTS are designed to break brake service bottlenecks



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ed tune-ups too, and the practical way . . .
able way to service them is from these EIS Service
its. They save time and speed your work as they
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ients are stock-check labeled . . . Kit and Cylinder
are clearly imprinted with specific car, model
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Whether you replace, repair or rebuild . . . make sure
you have the EIS Service Assortment that fits your shop
requirements best. Ask your EIS Distributor for
detailed information or write for EIS catalogs.

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EIS-O-VAC POWER BRAKE TESTERS • BLEEDER TANKS • SAE "SUPER" BRAKE FLUIDS • CABLES



Be Sure Primary Resistance Is Right

continued from page 41

Oldsmobile, 1961 F-85, 1960-61 Pontiac and Tempest, check input voltage to the coil. To do this, connect one voltmeter lead to the coil primary input terminal and the other lead to ground. Connect a jumper between the primary terminal on the distributor and ground, and turn the ignition switch on. On Chevrolet, the mini-

mum reading should be $4\frac{1}{2}$ volts and the maximum $6\frac{1}{2}$ volts. On Oldsmobile, F-85, Pontiac and Tempest, the minimum is 5 volts and the maximum 7 volts.

For Buick and Cadillac, measure the resistance directly by connecting one ohmmeter lead to the resistance wire at the ignition switch, and the other lead to the other end of the wire at the coil. The reading, in ohms, should be 1.8 for Buick and 1.4 to 1.65 for 1960-61 Cadillac. On 1959 Cadillac, a 1.8 ohm resistance wire with red and

Primary Resistance Wires

Specifications

Make	Year	Resistance (Ohms)
Buick	1960-61	1.8
Buick Special	1961	1.8
Cadillac	1959	1.52 or 1.8*
	1960-61	1.4 to 1.65
Chevrolet	1959	1.52+
	1960-61	1.8
Comet	1960-61	1.3 to 1.4
Falcon	1960-61	1.3 to 1.4
Ford	1960-61	1.3 to 1.4
Lincoln	1960-61	1.3 to 1.4
Mercury	1960-61	1.3 to 1.4
Oldsmobile	1960	1.8
Oldsmobile F-85	1961	1.8
Pontiac	1960-61	1.8
Pontiac Tempest	1961	1.8
Studebaker V-8	1960	1.52
V-8	1961	1.8

* .3 ohm extension resistor added to primary up to engine 062545;
1.8 ohm resistance wire with red and black tracers after engine 062545.
+ .2 ohm resistor extension added to primary lead.

TRY IT!



Model
"DA"
(Not a disc)

You'll Buy It...

You can try National's "DA" Sander in your own shop without cost. Just call your jobber today and tell him you would like to try a Model "DA" for one week. See how the off center sanding pad revolves free and independent of the driving head. You'll note how this action produces an unusually scratch free surface . . . how no heat is generated . . . how wet sanding is unnecessary, and abrasive lasts longer.

You will see for yourself that Model "DA" does a better, quicker job of sanding prime, surfacer, and putty . . . of removing rock chips and scratches in color without going through the prime. No hand clean-up (except with tac rag), and the surface is ready for color, even Acrylics.

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black traces is used after engine 062545. On earlier 1959 Cadillacs, a 1.52 ohm resistance wire with a .3 ohm extension resistor is used.

In the case of Studebaker, use the same test procedure as that given for Buick. The 1960 Studebaker V-8 uses a 1.52 ohm resistance wire, and the 1961 V-8, a 1.8 resistance wire.

To replace a resistance wire on Ford, Falcon, Comet and 1961 Mercury, cut the brown wire and the red wire, which has a green band, from the upper quick-disconnect terminal at the dash panel. Cut both wires as close to the quick-disconnect as possible. Then solder a male bullet-type terminal to the red and green wires, so that both wires have a single, common terminal. Attach a female bullet terminal to one end of the service replacement resistance wire, and then connect the two terminals. Do not splice the resistance wire.

Drill Through Dimple

Drill a $\frac{3}{4}$ in. hole through one of the dimples in the dash panel and install a grommet in the hole. Now thread the replacement resistance wire through the grommet in the dash panel and connect it to the jumper wire at the ignition switch. Make certain the wire is routed through the retaining clips. Cut off the defective resistance wire at the point where it enters the

[CONTINUED ON PAGE 174]

w... Cash in on 3 years' experience that has perfected Ditzler's Acrylic Color Mixing Service!



● **DITZLER SHELF-SHOP MIX.** For the shop with limited shelf space. This compact unit comes in two sections. Requires only 16 sq. ft. of floor space, and wall space just 8 ft. wide and 7 ft. high. Can be used in straight line or in corner.

nishing shops all over the country have used DITZLER's Acrylic Color Mixing Service with un-
ing success for three years. DITZ-
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combined the results of this prac-
experience with tireless laboratory
and studies to refine and perfect
nts, chemical content and for-
ions so that this system today is
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precisely and quickly the rich
y, luster and rugged durability of
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And you do it with true acrylic
—not just modified lacquers.

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● No waiting for delivery of needed colors. With the complete range of base colors and laboratory-tested formulas you serve customers more quickly, efficiently and economically. And you need only to mix the exact amount for a spot repair or complete repair job. No waste. No costly inventory of half-used or slow-moving colors.

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● Whether your shop is large or small, you'll find this one of your more profitable investments. Call or see your nearest DITZLER jobber for details.



● DURACRYL® acrylic finishes, exclusive products of Pittsburgh Plate Glass Company and its DITZLER and FORBES divisions, are used on the production lines of all car manufacturers applying acrylic finishes as original equipment.



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PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

continued from page 172

To replace a resistance wire on Lincoln and 1960 Mercury, disconnect the pink wire from the quick-disconnect terminal at the right side of the dash panel on Lincoln, or at the left side on Mercury. Connect the service replacement resistor wire into the multiple

The length of the resistor wire, approximately 60 in., establishes its

THE END. NOW TURN BACK TO PAGE 4!

Answer to question on page 66

In checking the cause of failure, it was determined that dirty automatic transmission fluid caused the pressure regulator valve to stick. The band was also out of adjustment. The combination of these two factors caused severe engagement of reverse and broke the servo casting.



"Beg pardon, sir, is this where I take my test for a driver's license?"

MOTOR, August 1961

\$300⁰⁰

A WEEK

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Radiator

“Our INLAND Radiator Department brings us an average of \$300.00 A WEEK! (Over \$15,000 a year!) Wish we had installed the equipment years ago!” — Douthitt-Carroll-San Chez Co., Memphis, Tenn.

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- relieve tie-ups of fixed lifting equipment
- speeds muffler, shock, filter, and brake replacement

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... a *must* for every shop or station. Instantly adjust to desired height and lock in place automatically. Offer stable, proper support for *safer* undercar work. Relieve jacks for use on other jobs—no tie-up of equipment. All H-W SAFETY STANDS factory tested to support 50% overload. At your H-W Jobber now at these economical suggested prices:

Model CS-211, 2-ton cap., (per pair): \$17.50
 Model CS-5.15, 5-ton cap., (per pair): \$24.50
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HEIN-WERNER "K" 2-ton HYDRAULIC SERVICE JACK

... lifts full 24 inches for fast, safe, quick access even in close quarters. Safety valve prevents overloading; ram travel controlled by positive stop. Compact and easy to maneuver; — easy to operate. Jack features roller bearings in front wheels and ball bearing casters. White swivel saddle speeds proper spotting under load; makes secure contact until SAFETY STANDS are positioned. At your H-W Jobber now at this suggested price:

Model K (standard service) 2-ton cap.:
 \$153.60



HEIN-WERNER "55" PACER

... with Bi-Level Swivel Saddles properly lifts *all cars*; raises either end to permit free access to under-chassis. Offers more lift, span, and reach to correctly raise loads up to 33 inches. Every "55" PACER powered by a 3 ton jack with safety setting at 1½ tons for longer, safer performance. Buy the *best* Hydraulic Twin Saddle Jack and always *work safe* with SAFETY STANDS. At your H-W Jobber now at this suggested price:

Model "55" Hydraulic, 1½-ton cap., \$124.50



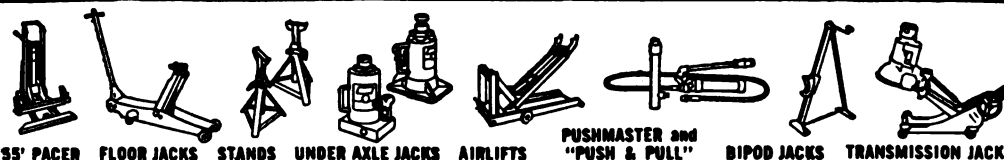
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... smooth cantilever action raises loads to a high of 52 inches. Ideal for tire and brake service, muffler and tail-pipe replacement. When used with H-W CS-5.17 Pivot-Head SAFETY STANDS all four wheels of the vehicle are cleared in a jiffy. Especially suited for outside service on aprons and drives; fully air-operated and completely portable. Positive automatic safety lock prevents accidental lowering. At your H-W Jobber now at these suggested prices:

Model AL-35.1, 1½-ton cap. Air Lift: \$385.00
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 (per pair): \$25.95

Keep your shop up-to-date with Hein-Werner's SAFETY COMBINATIONS ... dependable, safe jacks best suited for your service needs *plus* the proper capacity of SAFETY STANDS. Get full facts now from your H-W Jobber, or write, wire, or call us for details.

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Solves the mechanic's growing problems with the new Alternators. Sturdy, low cost, pocket size meter . . . gives quick, clear, accurate readings—1 to 18 Volts—AC and DC Voltages.

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- OIL PRESSURE GAUGE (0-80 lbs.) shows pounds per square inch at all operating speeds.
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Just an indication of GOOD or BAD isn't enough . . . especially if a bulb is burned out. Cars need this great, new HOYT Ammeter-Oil Pressure Gauge Unit (#1700) that continually and accurately reports on engine lubrication and ignition systems. And, it's priced right for salesmen and PROFIT!

Neutral grey panel is 5 1/4" x 3" and complements all car interiors. Meters are 2 1/4" diameter, easy-to-read, and have narrow polished bezels. Universal mounting. Three color, stocking counter display available.

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Sign Challenges Customers



This large sign, located near the entrance to John's Service Station, Green Bay, Wis., attracts customers eager to cash in on possible oversight. It also keeps employees on their toes

Octane Ratings Level Off

According to the Bureau of Mines, Dept. of the Interior, average octane ratings for domestic motor gasolines have leveled off after climbing consistently for nearly 10 years.

Regular, premium and super-premium grades of gasoline sold at service stations across the country last winter had octane numbers virtually unchanged from those for the same grades in the same areas during the summer of 1960. This represents the first time since the summer of 1951, when ratings dropped one point, that average octane ratings failed to register an increase.

GM's Earnings Decline

General Motors Corp. reported that its second-quarter net income totaled \$252,000,000, compared with \$288,000,000 for the same period last year. Sales in the second quarter of 1961 declined to \$3,088,000,000 and \$5,812,000,000 for the first six months, against \$3,451,000,000 in the 1960 quarter and \$7,109,000,000 for the first half of last year.

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- BALANCE WEIGHTS
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Write for
free prize catalog!

BEAR MFG. CO.
Dept. 103, Rock Island, Ill.

Get Service Costs Down

continued from page 52

bring 'em in after a while. I gotta see Cap anyhow. Is he in this afternoon?"

"He's in every afternoon. You know that."

"Yeah. I mean, is he busy?"

"Not too busy to see you," said Adelaide. "You don't putter him."

It was 3:30 when Dan came in from the shop and laid the parts bills, duly checked and approved, on Adelaide's desk.

"O. K. to go in?" he asked.

"Yes," said Adelaide, "and you're lucky. Mr. Moran's in a sunshiny mood. Only a few minutes ago he convinced the road man that he had enough 1961's to clean up without ordering any more."

Dan looked depressed. "If he can win an argument like that," he said, "maybe I better not start one."

"I don't think he'd care whether he won any more arguments today."

"I hope not."

Dan hesitated on the threshold of Cap's private office until Cap looked up.

"Come right in," Cap invited. "What's bugging you today?"

Slowly Dan advanced to the big desk and sank down into the leather chair beside it.

"I'm gettin' worried about the prices we have to charge," he said. "Some of our old customers get rough when they think the bill is too high."

"We've two choices," said Cap. "We can either charge them the going rate or we can shut up shop. It's that simple."

"That's why I come in to see you. There was a guy from the zone office dropped in yesterday and tried to sell me a batch of rebuilt parts. The price was pretty good and I was wonderin' whether we oughta start usin' some."

"I know about it. He braced me first and I told him it was up to you to decide. He must have been a good salesman to convince you."

"He didn't have to do any convincin'," said Dan. "I've been

thinkin' about rebuilt parts for a long time. I thought maybe Lou Butterworth might like me to put 'em in some of his reconditioned jobs. But I've been scared of 'em."

Cap punched the buzzer button on his desk. "Lou ought to be here," he said. Then, as Adelaide appeared, he told her to call Lou from the used car lot.

"Times have changed," Cap said to Dan. "Three or four years ago I don't think I'd have discussed rebuilt parts with you. Today almost all jobbers are stocking them."

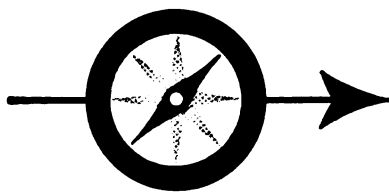
"I wasn't thinkin' about that kinda parts. The ones the zone man was tryin' to sell me was rebuilt by the car factory."

"Or for it. Which is all the same, because they carry the factory warranty."

As Cap finished, Lou strolled in, his many-hued sports shirt damp with perspiration. Cap invited him to sit down, which he did with a flourish of his half-consumed cigar.

"Dan here," began Cap, "thinks we could save a little money by us-

[CONTINUED ON PAGE 178]



NO LIMIT

to how far you can go as a
HARLEY-DAVIDSON DEALER



He started small but look at it today. Andres' San Diego store boasts a spacious floor area 100x100.

Shown inside Andres' sparkling San Diego store are, left to right, son Brad, who is the sales manager; wife Gladys; and Andres.

Ask Leonard Andres how his Harley-Davidson business is going and he'll tell you it has never stopped growing — not since he started a small Modesto dealership in 1938.

Blessed with an enterprising spirit — and the world-famous line of Harley-Davidson products that were then and still are in big demand — Andres has been able to expand operations with a Stockton branch in 1946 and a large San Diego dealership in 1951.

"Nothing but good has come of my association with Harley-Davidson," Andres observes. "It's a business in which a man can really make a success of himself."

YOU TOO CAN BECOME AN AUTHORIZED DEALER! The population boom has created a bigger market for Harley-Davidson's complete line of sport, commercial and police products.

Initial investment is low and complete financing services are available. A hard-hitting national advertising and sales promotion program backs you up every step of the way. Send the coupon for your Harley-Davidson opportunity brochure.

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● Milwaukee 1, Wisconsin

● Please send me your brochure on the dealership program.

● Name.....Age.....

● Address.....

● City.....Zone.....State.....

● Occupation.....

.....

Get Service Costs Down

continued from page 177

ing rebuilt parts in our reconditioning work."

"You mean secondhand parts," translated Lou.

"No," said Cap. "I mean rebuilt or remanufactured parts—the kind in which every worn component has been replaced. And the kind that's guaranteed by the builder."

Lou studied his cigar for a mo-

ment. "What do we know about the guy who rebuilds 'em?" he asked.

"In our case," said Dan, "it would be the car factory. You ain't suspicious of it, are you?"

"I refuse to answer on the advice of counsel," said Lou.

"But what do you think of Dan's suggestion?" said Cap.

"I'd like to know more about it," said Lou. "If the parts will stand up and I won't have no used car buyers cryin' for my blood, then it's O. K. by me. We got a

good reputation for used cars in Morrisville and I don't wanta lose it on account of some cheap part."

"Nobody can quarrel with that position," said Cap.

"But what about our own service shop?" asked Dan.

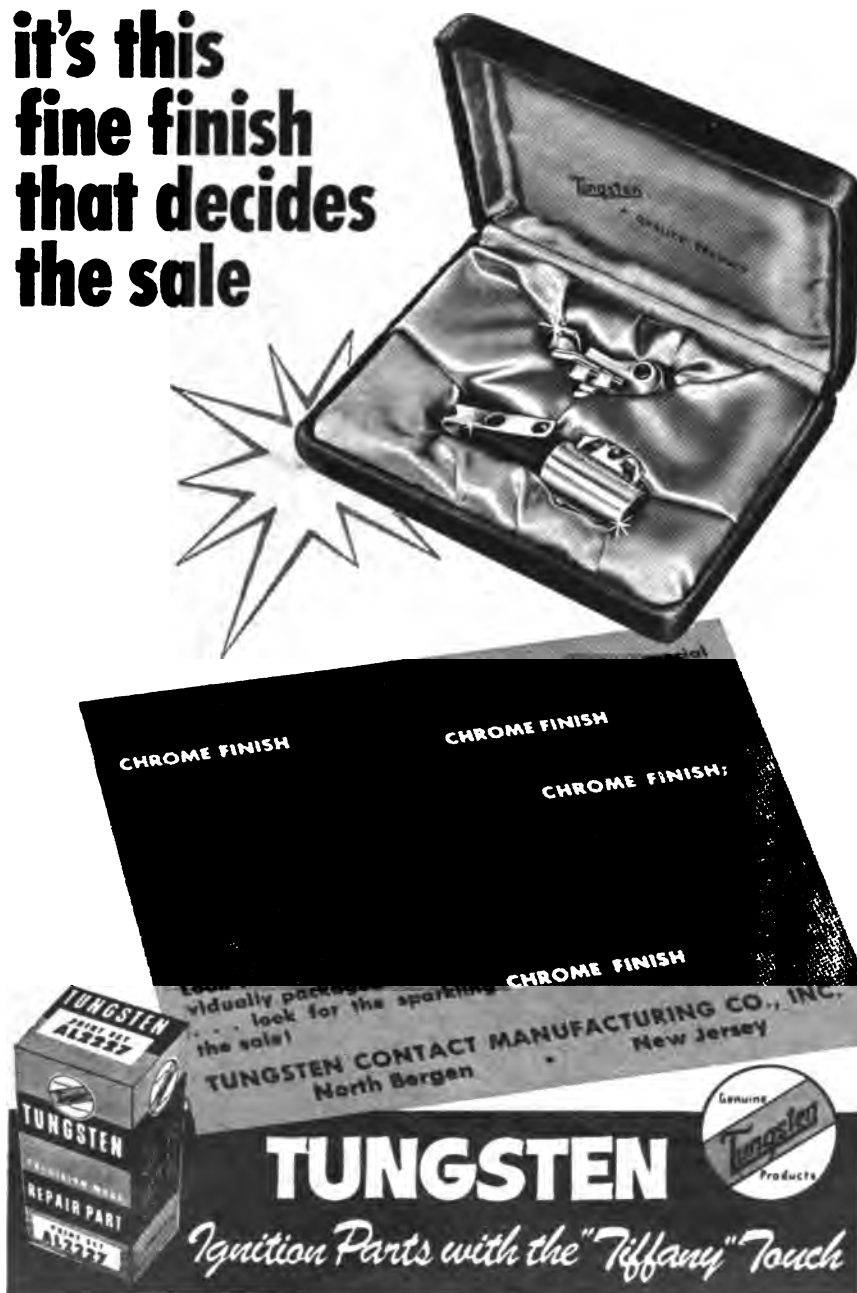
"I don't think we want to make any distinction between customers when it comes to quality," said Cap. "There's this to remember, though. Customers who patronize our shop believe they're getting new parts. We'd have to explain to them if we started using rebuilt units."

"I don't think we oughta get into that," said Dan, "as long as they don't set up a howl about the estimate. If they did, we could shave the price a little by installin' a rebuilt part or two. That oughta make 'em happy, especially when we tell 'em the part's guaranteed by the car factory."

"You're on safe ground there," said Cap. "As a matter of competition, we ought to insist that our factory remanufactures the best parts. But, as a matter of fact, some of the independent rebuilders do

[CONTINUED ON PAGE 180]

it's this
fine finish
that decides
the sale



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Since considerable time is required to process a change of address you are urged to advise the MOTOR Magazine Subscription Department as soon as you know your new address, preferably five weeks in advance.

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sell all four...not just one... with this **EARLY FROST** "Special Package Deal"!

*You can sell: 1. Oil change 2. Lube job
 3. Complete cooling system check 4. "PRESTONE" Anti-Freeze
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When you sell these four—all in one package—when you sell them early, you're giving your customers the winter protection and service they need and want!

When you combine all four items in just one service trip, you save your time, your customer's time, and you're offering not just anti-freeze service but complete winterizing service for the car! You have the know-how and equipment to do the job properly and you stand to make profits on related service and parts (thermo-fan belts, hoses, etc.)!

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Be sure to obtain from your supplier the FREE "Prestone" Anti-Freeze Merchandising Kit, featuring the "SPECIAL PACKAGE DEAL" poster (shown at right).

Figure your price for several likely combination package deals you will be called upon to use and insert the lowest price (generally, the popular car with the smallest oil and cooling system requirements) in the circle after "As low as" on the special poster.

Tell customers that your "package" price covers the four basic items listed, but if your complete cooling system check turns up any needed repairs or replacement parts, that, of course, will be extra. Be sure to point out the many operations involved in your cooling system and winterizing job so your customers will *know* about the service you're giving them.

Keep the figures for the higher-priced package deals handy for customers with cars having greater requirements.



**Remember, your supplier has a FREE Complete
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 Sell ALL FOUR—not just one—and watch the winter
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Get Service Costs Down

continued from page 178

a thoroughly reliable job. You've got to know the rebuilder you're dealing with."

Lou took a couple of deep drags on his cigar, expelled the smoke, and looked steadily at Dan.

"I've heard tell," he said, "that some shops ain't above puttin' in a rebuilt part and then chargin' the customer for a new one. They say the rebuilt part is as good as new

so why not charge for a new one!"

"Not in our shop," snapped Dan. "When we get a customer gripe, I want to be sure it's about our goof and not some rebuilder's."

"Dan's quite right," said Cap. "The only legitimate reason I can see for using rebuilt parts is to cut a little from the customer's bill. Substituting a remade part and billing a new one is downright thievery."

"Shaving a bit off the customer's bill is not only legal; it's smart. As Dan pointed out earlier, service

customers are still complaining about the size of their bills. We're at a decided disadvantage with the garages and service stations. Their overhead is lower. When they use rebuilt parts, as lots of them do, our disadvantage is even greater.

"So anything we can do to give the customer a break and still do a dependable job helps level some of the obstacles we face."

"Well thanks, Cap," said Dan. "I think this is gonna be a big help to us out back."

"I'll let you know about the lot," said Lou.

"That's one of your endearing qualities," said Cap. "If it takes faith to walk on water, you'd be a great promotion for boats."

—Edward Ford

Next month—Cap hears about a car dealers' paradise.

NOW TURN BACK TO PAGE 53

LUCAS gives you "on the spot" service, coast to coast!



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Every Star's a LUCAS Factory Branch!



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Rotating Engine Licensed

NSU Motorenwerke of Germany has announced that F. Perkins, Ltd., London, England, has been licensed to manufacture the NSU-Wankel rotating combustion engine. Perkins is a leading builder of Diesel engines. Two Japanese companies, Toyo Kogyo Co., Ltd., Hiroshima, and Yanmar Diesel Engine Co., Osaka, have signed licensing agreements for production of the engine in East Asia.

AM's Earnings Rise

Earnings for the three-month period ending June 30 were \$7,689,174, American Motors Corp. announced last month. This compares with \$2,208,264 in the previous quarter.

How Would YOU Fix It?

Answer to problem on page 78

► A fast job, as in this instance, can lead to trouble. A thorough check was made when the need for a second set of distributor points was indicated. This check showed a high voltage condition. Backtracking, the repairman found that the ground strap between the body and engine had not been reinstalled on the cylinder head when the valve job was completed.

NEW ON THE JOB

Car, Truck Factories

. BRIGGS to vice president
vision general manager and
ARMSTRONG to assistant divi-
general manager, Chrysler-
th Div.

. CHESEBROUGH to vice presi-
nd director—quality control,
J. DiCicco to director of au-
e services, Chrysler Corp.

ERT FISHER to advertising
es promotion manager, Lin-
ercury Div.

LD E. KIDDER to vice presi-
d N. A. LAMBERTI to admin-
e assistant to the president,
ker-Packard Corp.

s F. HOLDEN to chief counsel
ad of the law department,
Motors, Inc.

ON B. MACKENZIE to director
er development office, Ford
Co.

OLAS DYKSTRA to president,
ecutive officer and director
k Trucks, Inc.

Bronx Station Cited

nce Service Station, Bronx,
perated by Charles Mottola,
n cited by the New York
etroleum Council as "Ser-
vition of the Year." The sta-
cated on a corner plot cov-
out two city blocks, has 16

pumps, three of which dispense
Diesel fuel.

The station has four large bays
and is equipped to service passen-
ger cars and large trucks. It is open
24 hours a day with 16 men on duty
at all times.

Seat Belt Council Formed

The American Seat Belt Coun-
cil, a newly formed organization,
is comprised of automotive seat belt
manufacturers and makers of com-
ponent parts.

The council was created to sup-
port such groups as the National
Safety Council, Advertising Coun-
cil, American Medical Assn. and
others in their efforts to increase
use of seat belts by the public.

Aids Project HOPE

Roy C. Ingersoll, board chairman
of Borg-Warner Corp., has been
named chairman of the Automotive
Parts Div. of the 1961 Commerce
and Industry campaign for Project
HOPE. This is the organization
that has sent the American floating
medical teaching-training center,
the S. S. HOPE I, to southeast Asia.

Can You Name It?

Answer to problem on page 162

The car is a 1923 "copper-cooled"
Chevrolet.

**LIQUID
RENCH**
Loosens
Rusted Bolts
nuts, screws, "frozen" parts!
"The mechanic's friend
... works in seconds"
**YOUR JOBBER
HAS IT!**
RADIATOR SPECIALTY CO.
CHARLOTTE, N. C.

Get all the benefits of
pressure under the hood!
The worn and faulty hose
connections
with
**WITTEK
Sure-Tite
HOSE CLAMPS**

WITTEK manufacturing co.
1714 24th Place, Chicago 23, Illinois

ExtraOrdinary...
the extra money
you'll make
looking under cars
... when you sell
**ARMSTRONG
PATENTED
SHOCK
ABSORBERS**
Write today for details!
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Allied
ENGINE & CHASSIS PARTS
"the complete coverage line"

**NEW! EXTRA-HEAVY
CONSTRUCTION**
Axle Stand
by **KEN-TOOL**

Sure-Grip
Saddle
Self-
Locking
Tripod
Base

6:00
Over
De
Nor

**3-TON
T-124**
passenger
cars

**5-TON
T-127**
passenger,
light trucks

**7-TON
T-125**
medium trucks,
farm equipment

**10-TON
T-128**
Heavy-duty
trucks, buses

**15-TON
T-129**
Extra-heavy-duty
tractor trailers,
vans, heavy
contractor
equipment

A size for every job
rugged, low-cost...
safety features. Wide
base eliminates roll
even on rough or sl
floors... prevents tip
Positive-locking, self-e
ing lug.
**WILL NOT RELE
UNDER LOAD!**
Built like a surveyor's
to eliminate rocking.
delivery from your
jobber.

KEN-TOOL MFG. CO.
AKRON 5, OHIO



**BUY FIVE
GET ONE FREE
PERMATEX
COOLING SYSTEM PRODUCTS**
Meet every cooling
system need!




Put extra profit in the till... put your customers' cooling systems in tip-top shape for winter driving! Here's the Permatex Cooling System Special:

- **BUY FIVE OF ONE PERMATEX COOLING SYSTEM PRODUCT, GET ONE FREE**
or
- **BUY ANY FIVE AND GET ONE WATER PUMP LUBRICANT AND RADIATOR ANTI-RUST FREE**

Your jobber has the goods... stock up now! Offer good September 15th through November 15th.

Permatex quality automotive chemicals are sold only through you—
not by discounters or supermarkets—because they're...


...MADE FOR THE PROFESSIONAL!
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 COMPANY, INC.

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AS **MOTOR** GOES TO PRESS

Last-Minute News . . What It Means . . What's Ahead

Other Makers Study New GM Dealer Help

Other manufacturers in the field are studying intently the dealer-cheering provisions which General Motors wrote into its selling agreement late last month. The new provisions double the discount holdback to 2 per cent, raise the mark-up on warranty work parts allowances to 20 per cent and give dealers 15 more days to pay for new cars. They previously had only 4½. Concessions are compromises of NADA Task Force demands. Detroit feels competition will have to go all or part way toward matching the concessions.

Industry to Miss High Output Goal

Car makers appear doomed to fall short of the ambitious production program set for September, first full month of the 1962 model year. Factory schedules call for 490,000 vehicles, highest September goal in a decade. But until such a time as all manufacturers are in full agreement with the United Auto Workers on terms of a new contract -- and that means down to the last comma in the fine print -- production is likely to be on a stop, go slow and speedup basis.

1961 Model Run Ends at 5,410,000

Even if management and labor come to an early meeting of minds, the industry will have to go to overtime to meet its schedules. With so many makers closed for changeover last month, August output dwindled to 195,000 cars, bringing the final count on the 1961 model run to 5,410,000 automobiles. Sales last month are estimated at 375,000 cars.

Inventories Cut To 670,000 Cars

The brisk rate of August business coupled with the curtailment of production cut a wide wedge out of dealer inventories. Car stocks declined to 670,000 units, including 160,000 of next year's models. Most dealers are now confident that leftovers pose no serious problem. Any slight surplus would be wiped out quickly if output is disrupted by labor trouble.

Used Car Prices And Demand Firm

Contrary to dealer expectation and historical precedent, the used car market continued to boil last month. There was no rollback on either price or volume and there is a definite shortage of salable merchandise. Auction activity was off slightly but slack was taken up by better retail sales.

List of Models To Grow Longer

Poll of industry executives and division heads by MOTOR on how long the trend toward more and more models will continue turned up these answers: Factories will continue to add models for another year, possibly two, after which there will be a gradual reduction in the model mix. Car makers regard certain phases of the specialty car craze, such as bucket seats, passing fads. Factory sales departments are pressing for still more models but their bosses, division chiefs and company presidents, fear dealers are fast nearing the breaking point in trying to carry oversize stocks. Finally, GM and Ford have explored or are exploring the idea of giving dealers financial aid on carrying the burdensome inventories.

1962 Market Guesses 1,000,000 Cars Apart

Confirmation of a long-standing suspicion that some market forecasts out of Detroit are arrived at by a my-guess-is-as-good-as-yours method and not via a secret science, as car builders are prone to pretend, is seen in the current crop of predictions. Never in the postwar era have car company executives been so divided on their forecasts as they are this year. Difference between the high and low estimates is 1,000,000 cars. Peak prediction comes from a GM official, who sees deliveries ranging between 7,250,000 and 7,500,000 vehicles, lowest from a Ford executive, whose guess is 6,500,000, although other officials of the company favor a figure of 7,000,000. Chrysler, American Motors and Studebaker-Packard peg the 1962 market somewhere between those extremes, but swing more to a figure under 7,000,000 than over it.

Sales of New Series To Set Schedules

Factories offering two standard-size lines for 1962 (such as Ford with Fairlane and Galaxie) will use dealer orders to determine which car is to be the volume product for balance of the model run. The number of dealer orders in the first 60 to 90 days will indicate the bread-and-butter brand and factory promotion will be directed accordingly. Dealers are cautioned against overstocking on one line or the other before public preference is proved.

Safety Brake Standard On 1962 Rambler Line

A new brake system that will operate the front shoes even if the rear lines or cylinders develop a leak, or vice versa, is to be standard on Ramblers for 1962. Lubrication periods will

be 33,000 miles. The American will introduce the "E-stick," a new clutchless gear-shift.

Chevrolet Prices May Shock Rivals

General Motors, as always, is playing it close-to-the-vest on prices until dealer announcements, but Detroit speculation is that some Chevrolet products will be priced at bedrock, to the consternation of its rivals in the popular price field.

VW-Size Ford "In the Works"

Any faint doubt that may have existed concerning Ford's plan to produce a Volkswagen-size car has been dispelled by company officials. Stock answer of company executives when asked about the car is the familiar parry, "No comment." Translation: It's in the works.

More Offices to Take Unfair Trade Grips

Business men with complaints about unfair competition may now file them with any of the 59 field offices of the Small Business Administration. Previously such complaints had to be filed with the Federal Trade Commission, which has only 10 offices in the field.

Compacts Boosting Share of Market

Although compacts have yet to attain 50 per cent of the market as a whole, the small cars are already taking that big a slice of the business of some divisions. In the case of Lincoln-Mercury, Comet is claiming 60 per cent of division sales.

Dealers to Collect Own Performance Data

Dealers confronted by problem of obtaining statistical data to measure their own performance compared with that of the competition may find solution to their dilemma by banding together. Idea has proved successful in an Eastern area where members of a line group pool information through an accountant. Figures have proved more valuable than the discontinued factory averages and Na-

tional Automobile Dealers Assn. averages. The NADA figures are not broken down by make.

Horsepower Rises as Economy Claims Drop

Paradox of the new model year is the upping of horsepower of many makes, coupled with denials from car company executives that a new horsepower contest is in the making. One producer, who protests that his company is not interested in speed for speed's sake, told a press preview of an engine tested out at a speed of over 180 mph. Simultaneous with the re-emphasis on power, many makers are shaving their economy claims.

Sales Per Dealer Should Rise in 1962

Although the factories hold high hopes for 1962, their policy makers indicate that there will be no wholesale signing on of new dealers to handle the expected increase. Most major makers are satisfied with the size of their dealer forces, although some smaller factories would like additional representation. Assuming dealer ranks are not expanded and the hoped-for upswing materializes, sales on a per-dealer basis ought to show a broad advance.

Brief but Important

Although two-ply tires will show on most makes for the first time in the 1962 model year - a few cars were equipped with the tires during the 1961 run - tire makers have already supplied the industry with some single-ply casings for test purposes....Lincoln dealers last month outgrossed their Cadillac competitors for the first time in history, although Cadillac remains first in sales....Chrysler merchants apparently foresee a good market for their new 300 (no initial) series. First month's run was sold out to dealers before the car went into production....Fairlane and Meteor will expand their model offerings early next year....Decorative item on one 1962 product is a near duplicate of a symbol Hitler appropriated for his Nazi party (not the swastika)....The Corvair will offer its first convertible in March....Now that nearly every dealer has a product in every price class, what happens to the classic salesman's excuse: "We lost the deal because we didn't have anything in his price class?"

Pickup in Service Expected This Month

After a lively July, service and maintenance volume dropped off a little in the closing weeks of August but the loss was not severe and most shops expect demand to recover sharply this month, even before the rush of winter service sets in. Last month's volume, despite the recent drop, ran about the same as last year, although activity varied widely from one area to another. One reason is the high interest in the forthcoming new car models, particularly the super-compacts. Neglect of cars before trading them in seems to be mounting, according to many dealers who take them in.

Jobber Sales Vary Widely

Rarely have such wide swings been noted in jobber sales as this year and seldom has the variation between areas been so pronounced. Different localities are snapping out of the recession at different rates of speed. All wholesalers expect better business this month but some are worried by tightening collections and all by price cutting on antifreeze, which is no longer fair-traded. Several non-automotive outlets are offering at below jobber price.

Advance Selling Brings No Penalty

How sacred are public introduction dates set by factories? Do dealers who observe deadlines hurt themselves? The questions arise because selling of new models in advance of factory dates has cropped up again this year. Violators, who take the cream off the market and at peak profits, are seldom slapped down by factories. In one instance, involving a Ford brand, dealers were given factory go-ahead to sell before the formal date fixed by the company.

Oldsmobile, Rambler Raise Sights Most

Steepest new model goal in the industry has been set for Oldsmobile merchants. Factory is asking each outlet to top last year by a minimum of 35 per cent. Division will sell

about 295,000 units this year, wants to move no fewer than 450,000 new models. The second highest target is a 30 per cent increase hoped for by American Motors. Company will deliver about 385,000 cars this calendar year, is sighting 500,000 registrations in calendar 1962.

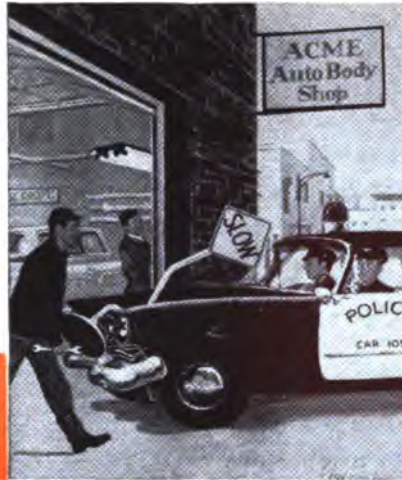
Chevrolet Ups Dealer 1962 Goal 20 Per Cent

With a line of 32 models, two more than in 1961, Chevrolet dealers have been given a goal of 1,900,000 deliveries for the new model year, an increase of 325,000 cars, or 20 per cent, over the 1,575,000 units foreseen for this year. The company looks to sell 1,300,000 conventional cars, 400,000 of its new Chevy II line and 200,000 Corvairs. Chevy II, out the end of this month, will offer two engines: (1) a 153 cu. in. 4 rated at 90 hp and (2) a 194 cu. in. 6 producing 120 hp. The new line, on a 110 in. wheelbase, will come in nine models.

New Series Run Into Output Snags

As forecast in these pages, car factories are running into production problems with some of their new entries. One such vehicle made two trips through the line before clearing final inspection. Until the difficulties can be ironed out, dealers will have to put up with erratic deliveries. This applies only to models new to 1962 lines.

MoToR



Editorial

Rewarding Reminders

Without determined selling, there can be no success in any business.

This is a fact too often overlooked in the service field. While it is easy to find hundreds of hard-selling, profit-making repairshops and service stations, thousands more are content to let car owners drive in and buy service off the shelf, as they would oatmeal or canned beans.

The fall selling season illustrates this truth better, perhaps, than any other time of year. Car owners, at least in areas where winter temperatures dip below the freezing point, voluntarily buy antifreeze. A smart shop never lets them stop there.

For years, it has been customary to sneer at efforts to encourage additional purchases by customers as "barbershop" selling. Actually no high-pressure is necessary. In fact, some "selling" is no more than a mere mention of a car's needs, a reminder of some accessory or service which the customer knows he wants but does not think of at the moment unless his memory is nudged.

How many times have we run out of some important item around the house, simply because we forgot to buy it the last time we shopped? A reminder by the clerk would have been genuinely appreciated.

Why not befriend the customer of the garage or service station the same way? Tell him about the service his car needs. If it really needs the work or the merchandise, he will buy, and thank you for reminding him.

EDWARD FORD
Editor

Dealers Must Still Fight

A veteran who has watched car retailers struggle for 36 years tells what it is they need and what they must do to get it

By Claude S. Klugh

As I look back over 36 years of car dealer association work, I am amazed at a paradox. The problems that confront dealers today differ by worlds from those that faced them in 1925, yet the really big problem today is exactly the same today as it was back then.

I mean by this that the specific threats to dealer profits have changed as the country has changed and as producers have dwindled and consumers multiplied. I mean further that the one great obstacle to overcoming these problems is still one of persuading

dealers that they must fight together for the betterment they so sorely need today.

Some people seem to have got the idea that, in the old days, our associations did nothing but fight the car factories. The truth is that dealers back in the '20's did not have too much direct contact with Detroit. Their bosses in the vast majority of cases were the distributors.

It is hard today to realize the size of some of these distributors and the power they wielded. They controlled vast territories and some of them became multimillionaires. Factory policy was expressed through these distributors and in some cases factory branches. All these were more than willing to express it. Dealers were at their mercy and the attitude of the factories behind them was callous and often brutal.

Strangely enough, it was not factory or distributor abuses that first led dealers into associations. As late as the '20's, the lawmakers still considered the automobile a luxury and made it a fair target for dis-

Now as in 1925, the greatest obstacle is getting enough dealers interested in their problems to battle for a solution



for Their Rights

criminator taxes. Dealer associations fought to erase this impression and one of their major early achievements was convincing lawmakers that the automobile had become a necessity.

We were faced also with the problem of selling cars to people who had no fit roads to drive them on. Much of our early effort was devoted to good roads.

And, of course, most local associations back in those days were tied up with annual automobile shows. This was a useful activity, I suppose, but it did dilute efforts that might have done dealers more good in the long run. In some cases, I'm sorry to say, the show became the tail that wagged the association dog.

Over the years, dealer associations have helped to keep taxes in check. We still have too many and neither the dealer nor the car owner gets anywhere near as much benefit as he pays for. We still need more roads but, compared with the 1920's, today's network of highways in this country is a kind of wonder working and dealer associations can take part of the credit for working it.

All this does not mean that dealers had no problems with their factories. Factory coercion was often blatant. Happily, some of the worst offenders are no longer with us.

CLAUDE S. KLUGH, author of this article, retires Sept. 15 as general manager of the Pennsylvania Automotive Assn., largest of the state groups, after 36 years' service.

During this time, he has seen the retail automobile trade at its best and worst—in depression, under strict government control, in postwar prosperity. He has studied its problems at first hand.

Here, as an onlooker instead of a participant, he reflects upon conditions as he has found them, and ventures some opinions as to the future of automobile retailing.

Dealers everywhere will find the thoughts stimulating and perhaps an antidote for the pessimism that is encountered so often today.

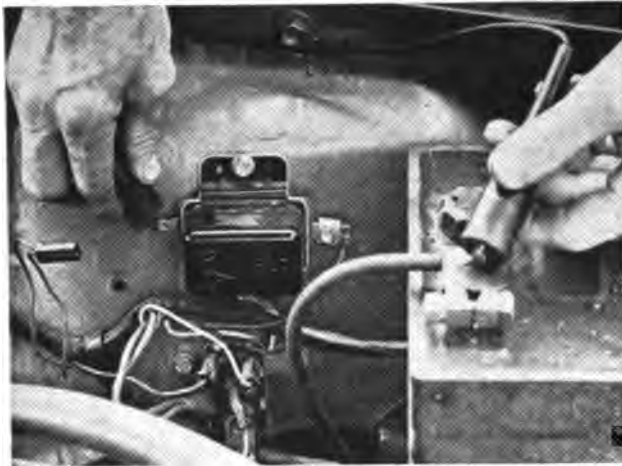


Claude S. Klugh

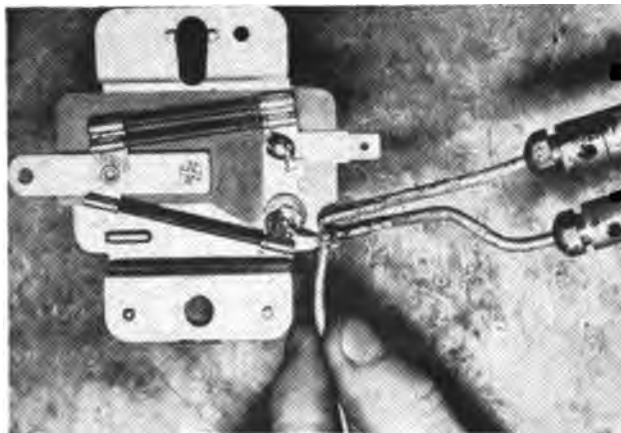
I can remember when lots of factory sales managers thought the way to sell more cars—or get greater penetration of the market as they liked to call it—was to appoint more dealers. This got worse during the 1929 depression when factories sometimes ended up with three dealers where they had had only one before.

[CONTINUED ON PAGE 132]

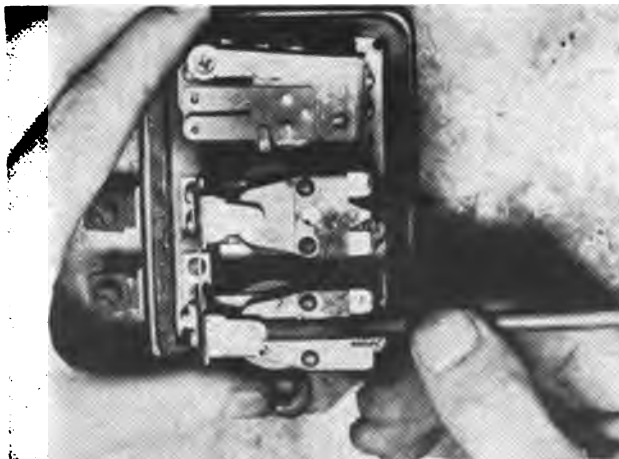




High resistance check on Chrysler is made with jumper from regulator ignition terminal to battery's positive post



To lick persistent flickering on alternator-equipped Chrysler, solder permanent jumper to terminal of 38 ohm resistor as well as to base of regulator



To remove oxidation from voltage regulator contacts, they must be filed parallel with the length of point armature

EASY CURES

Simple procedures to help you lick an electrical failure that is becoming increasingly troublesome

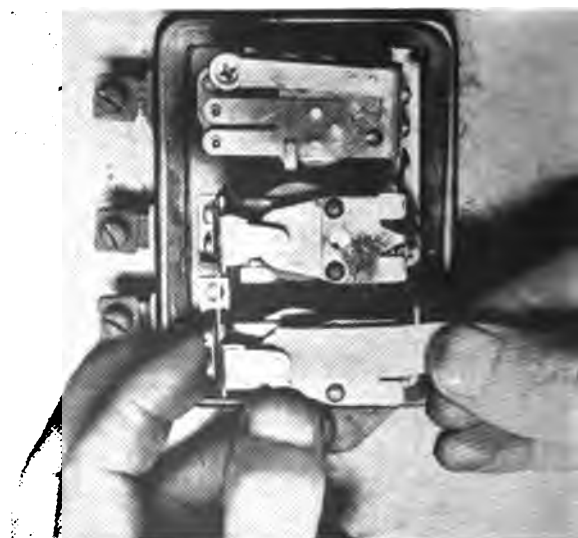
One of the latest service problems to crop up is that of light flickering on a number of late-model cars. The ability to handle troubles such as this efficiently is what separates the men from the boys on the service front. It also can make the difference between a profit or a loss on the job.

The complaint can be that either the headlamps or the interior lights or both flicker on a 1951 model car. If the car has an ammeter, the needle fluctuates over a wide sector of the scale, but the movement is always at a fixed rate. The car can be equipped with either a generator or an alternator.

A number of points should be kept in mind when troubleshooting a complaint like this.

First, a slight amount of flicker, usually more noticeable in the map light or dome light, is normal when the voltage regulator first cuts in. During winter, and especially after a cold start which lowers battery voltage, generator output and field current are high. The greater variation in voltages at this time increases oxidation of the regulator contacts. A lag in the contact, caused by oxidation, causes a greater change in armature voltage and creates the flicker.

Remember, too, that when lights dim appreciably the trouble must be in the lighting circuit itself, not the charging circuit. With the lighting circuit in



Armature is held down while tape is removed to keep from leaving lint on it

FOR FLICKERING LIGHTS

condition, current at approximately battery voltage is delivered to the lamps. The lighting circuit can be checked quickly with a voltmeter by measuring the voltage drop between the battery and a headlamp, or by comparing battery voltage with the voltage available at the lamp.

It is best, when troubleshooting a complaint about flickering lights, to check methodically. First, check battery capacity. Then check the condition of the battery cables and other electrical connections in both the insulated and ground side of the charging circuit to make certain they are clean and secure. There must be a good ground connection between the base of the regulator and the generator housing. Install an extra ground wire between these two points, if necessary.

Next, check the regulator contact points for oxidation and high resistance. [CONTINUED ON PAGE 141]

With a tester calibrated in 1/100th of volt, battery capacity can be checked in two minutes. Voltage of the individual cells should vary less than .05 volts



What Detroit Is Thinking

By Robert Lund

Detroit Editor of MOTOR



This Permanency Business

The new command at Chrysler, for all the barrels of ink devoted to editorial speculation on the permanency versus the impermanency of the setup, may be cemented in a lot more solidly and around for a lot longer time than many management-level people at Ford and General Motors.

Assuming automatic retirement at age 65, an industry practice seldom deviated from, Ford and GM

are in line to lose more of their top talent than Chrysler within the next few years. No names, please, because a man does not like to be reminded that his working years are burning out on him.

Young Men in Saddle

Aside from individuals who left Chrysler during the past year for personal reasons—voluntarily or involuntarily—the company has suffered heavy losses in executive personnel via retirements. Charles L. Jacobson, M. C. Patterson, E. C. Row, J. B. Wagstaff and James C. Zeder, veterans all, have retired from the firm. With one or two exceptions, the present management group is made up of relatively young men.

Despite the great rewards that go with holding a top job at a car company, there is actually a dearth of management manpower. Thus Chrysler will seek to hang onto its remaining talent.

[CONTINUED ON PAGE 153]



1 Front impact on 1960 Chevrolet bent both sides of frame. Damage is more severe on left side

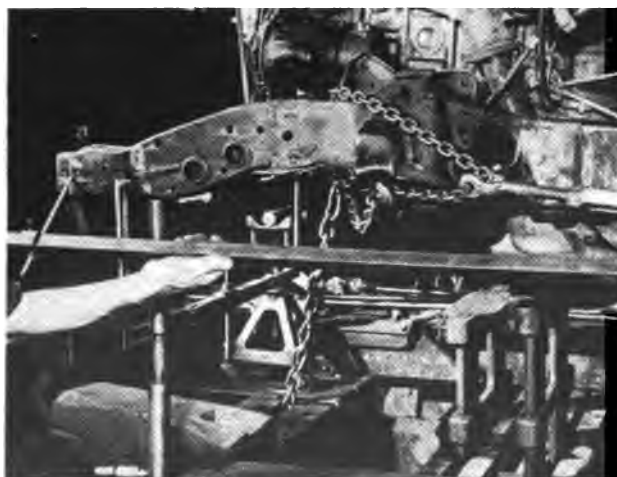


2 Crossmember is cut to relieve strain, making it easier to straighten frame side members

Fast Replacement of Front Crossmember Assembly

This method will save time and labor on an unusual type of construction

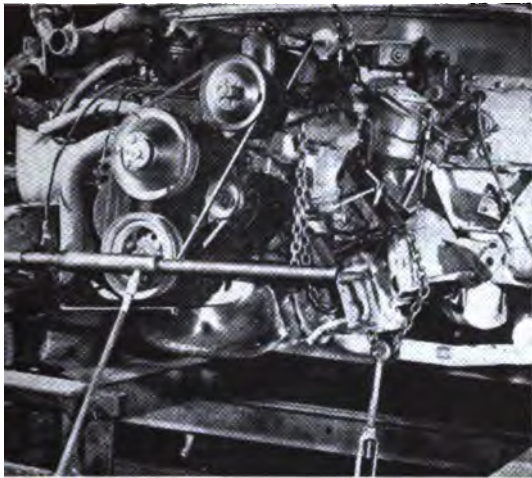
By William J. Moreland *Technical Editor of MOTOR*



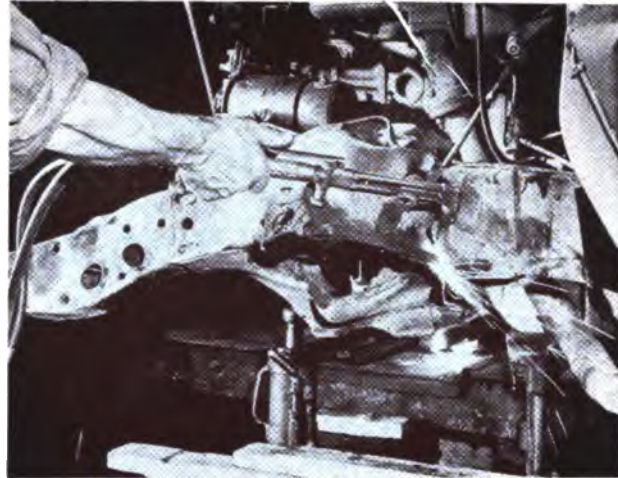
7 Distance from front hole in new crossmember to edge of hole in bracket is set at $36\frac{3}{4}$ in.



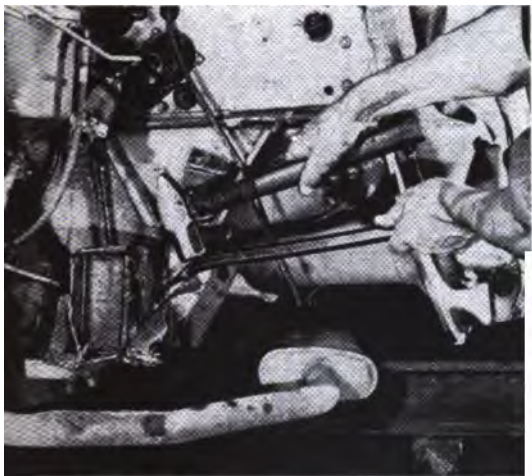
8 Tacking crossmember to frame to hold length to exact dimension. Chain and turnbuckle help



3 Turnbuckle and turnbuckle apply needed push and pull to straighten frame behind crossmember



4 Crossmember, having served as a pulling and jacking point to straighten frame, is cut off



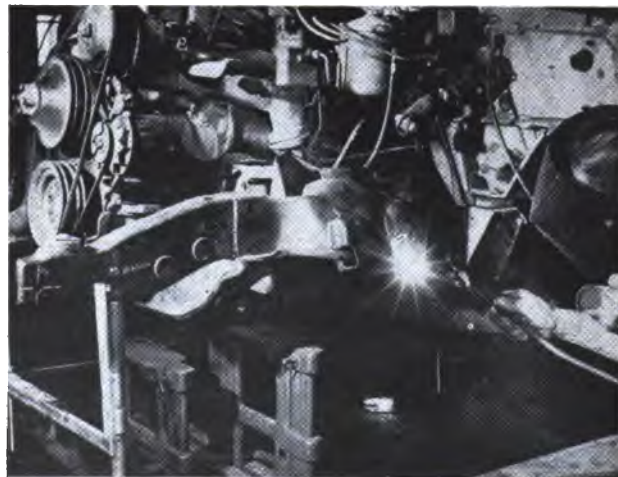
5 Sleeve of old crossmember being peeled off of siderail after the welds have been cut



6 Grinding removes old welds from front of frame before installing new crossmember



7 A bar is clamped to frame. Space from base of bar to center of front hole must be $6\frac{3}{4}$ in.



10 Overlapping sleeve on crossmember assembly is arc-welded to frame to complete the job

Do the Whole Brake Job

Here's the way to persuade car owners that their safety demands thoroughgoing work even if the ticket is bigger—and more profitable to you

When MOTOR Magazine made its extensive study of the brake service market last year, it found that every second car on the road needed brake work of some kind.

One explanation of this state of affairs was that shops were not taking the trouble to pull a wheel to see what kind of shape the brakes were in. Another explanation might well be that many shops do not take the trouble to do a thorough job even when the car owner, realizing his brakes are not what they

ought to be, asks a shop to do something about them.

There is no excuse for slighting a brake job. It is unfair, often dangerously so, to the customer. And it is unfair, sometimes expensively so, to the repairshop.

The car owner who drives out with only partially repaired brakes may be heading for an accident the first time he tries to stop. With the law concerning itself more and more with the question of what shops repaired cars involved in accidents, where poor mechanical condition is a factor, the service manager or garageman who fails to do the work thoroughly is asking for trouble.

Further, a shop's failure to sell the customer a complete brake job is picking its own pocket. To cite one instance, a major brake adjustment on one popular make car is flat-rated at \$10.45. That is a job customers like to ask for if anything goes wrong with their brakes, and a shop can make lots of owners happy by doing that much work and no more. It will not assure the customer a dependable job and it will not bring the shop the much higher gross it could earn by selling a complete job.

Suppose a shop takes the trouble to examine the brake system closely on a car the owner thinks needs



Internal leak in a power-brake unit can be checked with vacuum gauge, as shown



Hold-down springs are checked to see how much life remains. New spring is at left



Testing drum for roundness before taking a cut, which must be held to safe limits

only an adjustment. It will often find the brakes need relining. In many cases, too, the master and wheel cylinders probably will need an overhaul, and on some cars drums will have to be turned.

The complete package in this case will take \$35.75 worth of labor, plus \$30.65 for parts. That \$66.40 is a far cry from \$10.45 for a major adjustment.

This is only an imaginary case, of course, but the fact remains that every brake job requires more work than the owner is inclined to think it does and more, in many instances, than the repairman may be inclined to think at first. That is, if the final job is going to be comeback-proof. All work has to be done that way these days if the shop is to make any profit.

What is a thorough brake job? There is no single answer to that question. The odometer reading and the general condition of the individual car will give the repairman a clue as to the extent of the inspection he ought to make and the amount of work he should try to sell.

One thing a shop can always be sure of. That is the wisdom of using quality lining and quality brake fluid. It is always astonishing to find that some shops still think they can make a cent or two extra by installing second-grade lining [CONTINUED ON PAGE 224]



Testing hose for sponginess or other weakness. Failure here can undo good relining.

Capital Close-Ups

By Bert Mills

Washington Editor of *MOTOR*



McNamara Wows Washington

Eight months after quitting Detroit for Washington, Secretary of Defense Robert S. McNamara is being acclaimed as the success story of the Kennedy cabinet. The performance of the former Ford president in an almost impossible job has been applauded by all except the generals and admirals whose wings he has clipped.

President Kennedy regards McNamara as the "most useful" member of his official family. Congressional leaders have been astounded at his intellectual capacity and the speed with which he has grasped difficult military problems. House members are still talking about a McNamara appearance before the House Armed Services Committee back in July. He occupied the witness chair for four straight hours, fielding questions from 37 Congressmen on the most complex subjects without a fumble.

The military brass are used to managing their civilian boss, using him as a Congressional buffer and

front man. Instead McNamara really runs the Pentagon and makes the policy decisions himself. He works a 14-hour day starting at 7:15 a.m. He reserves 90 minutes each morning for what he calls "creative planning"—a period of isolation in which he devotes himself to solving a single major problem.

He finds running the Pentagon far different from operating the Ford empire. He told one reporter there is a big difference in "lead time." At Ford, it takes two years to learn how effective policies are. At Defense, it takes perhaps five years.

Defense Build-up to Spur Sales

Berlin crisis and other foreign scares are bound to bring better business to the automobile industry. Sales of both new and used cars are sure to be stimulated by higher employment, fatter payrolls, a stepped-up economy generally. Unless tensions ease—and government leaders do not expect that—there may even be some scare [CONTINUED ON PAGE 210]



After they had exchanged greetings, Black said, "American dealers I know came back from abroad with such glowing tales I got the idea they'd been in a kind of car dealer's paradise"

Do Dealers Need Big Brother?

Cap Moran hears from a retailer who has seen it in action that government control does not live up to its billing

Cap Moran, Morrisville's oldest and most generally respected dealer, had just shed his coat and was about to climb into a chair in the hotel barbershop when Gaetano, the proprietor, answered the phone, then motioned to Cap.

"The call's for you, Mr. Moran," he said.

"Moran speaking," said Cap, as he picked up the instrument. "Oh yes," he said after a pause. "I know Clarence Black. If he's got time, tell him to come on down to the hotel and we'll have lunch.

There was a pause and he said, "That's fine. Tell him I'll wait for him in the lobby.

"That's the trouble with having an efficient secretary," he said to the barber as he stepped up into the chair. "They must be part bloodhound. You can't hide from them."

A half hour later Cap was in the lobby when Black came in. He was a tall, firmly muscled man

with close-cropped white hair and a coat of tan that comes only from a long, leisurely vacation.

"Glad to see you, Clarence," said Cap, extending a hand. "What brings you to a whistle stop like Morrisville?"

"A chance to chat with you," said Black, with a grin that said he meant it. "My wife and I are getting back from a trip abroad. She has a friend near here she wanted to tell all about the trip, so I thought I'd run over and help you settle the world's problems."

"Couldn't we do that better over lunch?" asked Cap.

"And a drink," said Black. "Scandinavians have wonderful countries but that aquavit of theirs shouldn't be sold for anything but paint thinner. I'd like to tie into a gin and tonic."

When they had settled down at a table, Cap ordered drinks and then remarked:

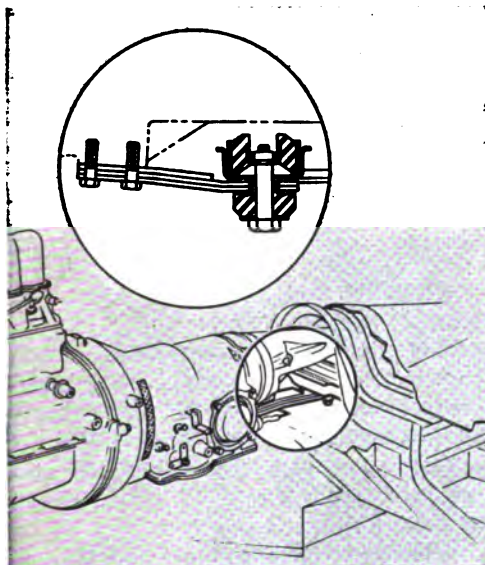
"You look as if the vacation added 10 years to your life. Where did you go?"

"All the Scandinavian countries," said Black. "My wife wanted a peek at the midnight sun so, among other things, we took a boat up to North Cape. We spent most of our time, though, in Stockholm, Oslo and Copenhagen."

[CONTINUED ON PAGE 168]

Comet Emphasizes Quiet

Mechanical changes seek smooth operation, longer life . . . Rear freshly styled . . . Luxury trim is now standard on new custom series



Rear transmission support. Three-leaf spring is mounted in rubber to crossmember



Custom four-door wagon. This new custom series replaces last year's trim option



Rear view of two-door sedan shows relocated taillights and rounded fender contours

Comet, carrying a Mercury nameplate the first time in 1962, has numerous mechanical changes directed toward quieter operation and longer life, and a newly styled rear end.

The Mercury name appears in block letters across the front of the hood, while each front fender carries the Comet designation in script. The rear end of the car is more rounded in appearance. The characteristic "raised-eyebrow" taillights have been replaced by dual lights at each end of the rear panel. Exterior dimensions are unchanged.

While no new body styles have been added, the number of model designations has been increased from five to nine by the introduction of a new custom series. Previously, a de luxe trim package was available for all models except the S-22. This option has been dropped and cars so equipped are listed as custom models.

Two-door and four-door sedans and two-door and four-door station wagons are offered in both standard and custom versions. The S-22, equipped with bucket seats and all-vinyl trim, is available only in a two-door model.

Changes in the engine and its mountings are de-

signed to minimize vibration and resulting drive line noise. A vibration damper on the front end of the crankshaft and a relocated center counterweight on the shaft itself smooth out torsional vibration. The rear-engine mount consists of a three-leaf steel spring, attached to the transmission at its front end and to the floor-pan crossmember at the rear. A rubber biscuit provides insulation from the body structure at this point. The mounting spring employed with automatic transmission is 7½ in. long, while the one used in cars equipped with manual gearbox measures 12 in.

Engine Details Changed

Main-bearing area has been increased by eliminating the groove in the lower insert. Push-rod ends are now hardened to reduce wear and reduce the frequency of valve adjustments. The cylinder-head gasket has been redesigned to prevent leakage. The engine front cover is now an aluminum die casting, instead of a steel stamping. Its increased rigidity is said to provide greater protection against oil leakage. The top compression rings are [CONTINUED ON PAGE 214]

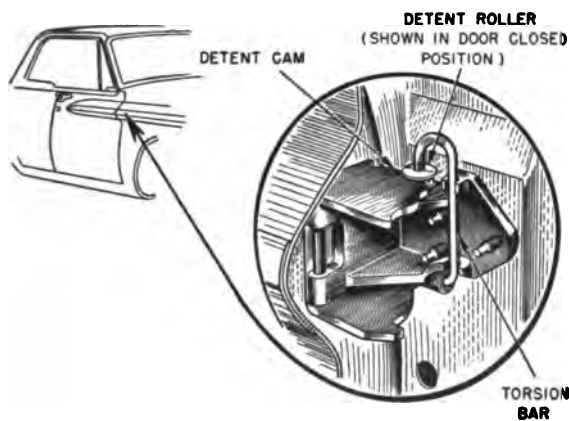
CHANGES NUMEROUS IN

Many of them in electrical system . . . New drive for V-8's . . . Lube period extended to 32,000 miles . . . Plymouth, Dodge have cable throttle control, different parking brake . . . Manual shift altered

Mechanical changes on 1962 Chrysler Corp. cars range from bodies to brakes and starters to steering. With the exception of Dodge, which is described on the following page, no styling photographs on Chrysler lines could be published as MOTOR Magazine went to press. This material, however, will appear in MOTOR's October issue.

Powerplants, are basically the same, with some reshuffling of applications. The 145 hp, 225 cu. in. 6 cyl. engine with aluminum block is optional on Valiant and Lancer. This same engine, but with cast-iron block, is standard on some Plymouth and Dart models.

Changes have been made in engine accessories. On Chrysler engines, a new cooling fan with a blade depth of 2 in., compared with 1¾ in. on 1961 en-

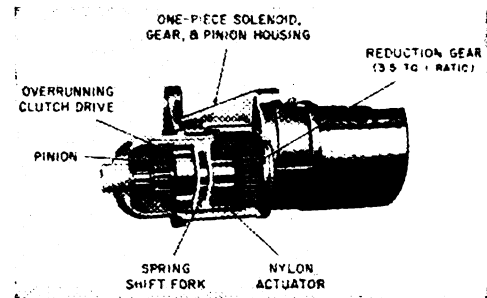


Door hinges on Plymouth, Dodge bodies have torsion-bar type checks with intermediate and full-check positions



Axial-flow blower delivers up to 240 cu. ft. of air per minute on Dodge, Plymouth heater and ventilator

All wires from engine compartment through dash lead to this quick-disconnect unit located on firewall



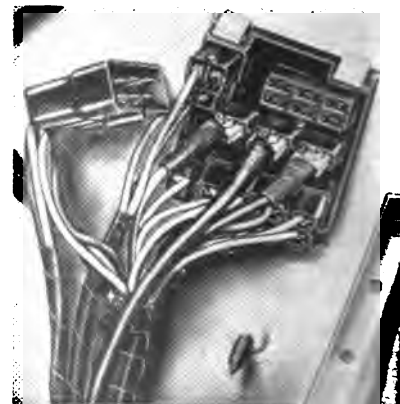
New starter with 3.5-to-1 reduction gear set is used on all cars except Chryslers with manual transmission

gines, enables a smaller and lighter radiator to be used with no loss in cooling efficiency.

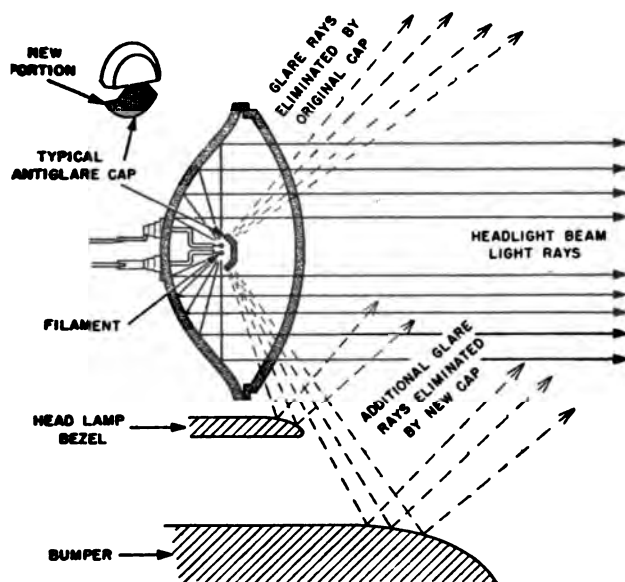
Throttle controls on Plymouth and Dodge 6 cyl. and V-8's are now cable-actuated, eliminating feedback of noise and vibration to the pedal. The cable is made from stranded stainless steel wire. The steel conduit in which the cable operates is sealed and lined with a self-lubricating plastic. The pedal works on a roller for smooth operation.

New mounts are used on Plymouth and Dart 6 cyl. engines and on the Plymouth and Dodge 361 cu. in. V-8. The new front mounts, placed at a 45 deg. angle, offer less resistance to engine roll than the vertical mounts used on 1961 models. The new vertical-shear type mount attached to the transmission is much softer than last year's pad type. Plymouth and Dodge engines are mounted farther forward and lower than on 1961's to reduce tunnel height.

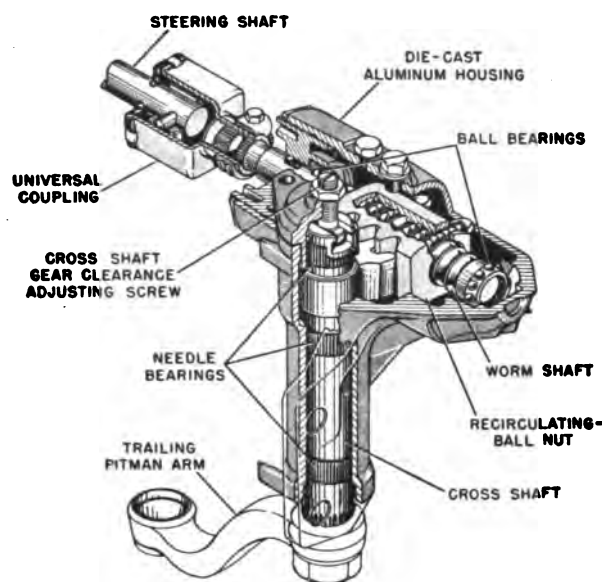
Many changes have been made in the electrical system. A printed circuit is used for the instrument cluster on Plymouth, Valiant and Lancer. A wiring harness disconnect is used on the engine side of the firewall on all cars. All wires passing into the engine compartment terminate in a single quick-disconnect fitting which snaps into a hole in the dash panel. All



1962 CHRYSLER CORP. CARS



Shield over headlamp filament is extended downward to cut glare caused by reflections from bumper chrome



Recirculating ball-type manual steering, mounted on K brace engine support, is used on Dodge-Plymouth cars

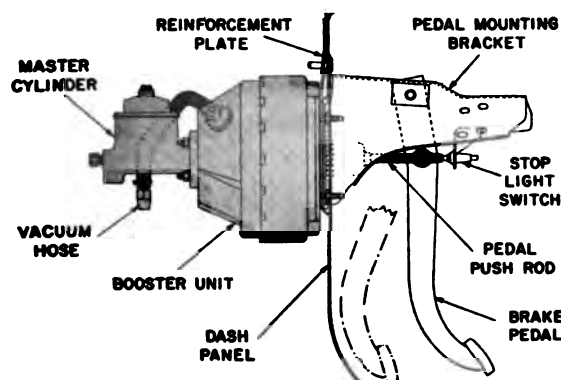
wires on the engine side plug into this fitting. Checks of dash gauges can be made at the fitting to speed service.

A service aid, too, is a new fuse block accessibly mounted under the instrument panel, except on Chrysler. On Chrysler, it is located inside the glove box. The fuse block is marked to show the circuit each fuse protects. Circuit breakers are retained to protect the headlamp and wiper circuit.

A new, smaller all-plastic turn-signal switch, said to be quieter and smoother in operation, is used on Valiant, Lancer, Plymouth and Dodge. A steel lever replaces the aluminum one used last year. The caps

on the low-beam headlamp filaments are larger on all cars to cut glare caused by reflections from the bumper and other polished surfaces ahead of the lamps.

A smaller, lighter starter with a reduction gear is used on all 1962 line-models except Chrysler with manual transmission. A 3.5-to-1 reduction gear set built into the motor gives an armature-to-crankshaft ratio of 45 to 1; the 1961 direct-drive ratio was 19 to 1. At normal engine temperatures, the cranking is somewhat slower and starter noise is reduced. At extremely low temperatures, torque output is increased to aid starting. The solenoid [CONTINUED ON PAGE 162



Vacuum-suspended power brake on Dodge, Plymouth, Chrysler, is tandem mounted between pedal and master cylinder



Labeled fuse box is located on passenger side of dash, except on Chrysler, where it is in glove compartment



Four-door hardtop in Dart 440 series. Fully unitized body comes on a 116 in. wheelbase



Lancer 170 series station wagon. All 1962 models have new grille and instrument cluster

TWO DODGES SHORTER

**Length of Dart, Polara trimmed . . .
New drive on V-8's . . . Parking brake
new . . . Electrical units changed**

Dodge presents a new silhouette in the 1962 Dart. With a long hood and short rear overhang which departs from last year's more conventional design, overall length is cut approximately 7 in. Wheelbase is now 116 in., two less than on the 1961's. A weight saving of over 200 lb. is also achieved.

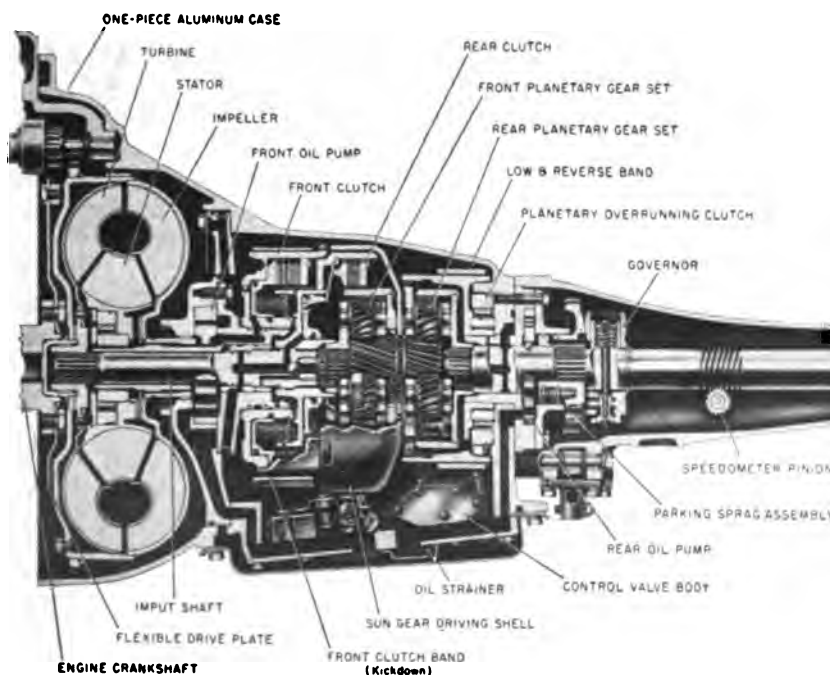
Mechanical changes in the entire Dodge line include new starter and throttle linkage and differences in the automatic transmission, parking brake, steering gear and axial-flow blower for the heater. The

Dart is again offered in three series but designations have been changed.

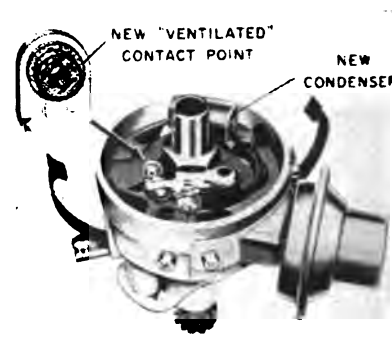
Once again, Dodge offers the compact Lancer, but this series is extended from six to seven models. The wheelbase of 106.5 in. is unchanged.

The Polaris 500, which replaces the 1961 Polara, is offered on a 116 in. wheelbase, as opposed to 1961's 122 in. Models are cut from six to only two, both sports types.

New throttle linkage on the Dart uses a stainless-steel flexible cable operating in a conduit which has a self-lubricating plastic liner. Throttle-control linkage to the automatic trans- [CONTINUED ON PAGE 181]



New three-speed automatic drive is smaller, lighter. Converter is attached to flexible drive plate. Sprag is used for parking



Stationary contact in distributor has hole in center for ventilation. New condenser is used



Cable-operated throttle control is used on all Darts. Cable slides in steel sheath which has plastic lining and needs no lubrication

FALCON EXTENDS LINE

New station wagon and two buses added to 1962 offerings. . Oil-change interval extended to 6,000 miles. . Detail changes made on engines and manual transmission

A revised model line-up, numerous mechanical changes and modest restyling mark the 1962 Falcon.

Newest addition to the series is a four-door Squire station wagon with imitation wood exterior panels and de luxe interior trim. The Station Bus, formerly a part of the Econoline truck series, is now a member of the Falcon family. The Club Wagon is a fancier version of the small, forward-control bus.

The 144 cu. in. engine, still rated at 85 hp at 4,200 rpm, is standard on all models except the Club Wagon. Regular equipment on this model and optional on all others is the 101 hp, 170 cu. in. powerplant.

Both engines have undergone a number of detail changes. A vibration damper has been added to the front end of the crankshaft, and the center counterweight has been altered to reduce torsional vibration and consequent driveline noise at cruising speeds.

Extends Service Periods

The cooling systems of all Falcons will be filled at the factory with a glycol-base antifreeze. Ford recommends draining and flushing after 30,000 miles or two years. Normal spring and fall cooling service is no longer necessary, according to the company. Oil-change interval has been extended to 6,000 miles. A new oil-filter cartridge has the bypass valve located in the top of the element, instead of at the bottom. In case the filter must be bypassed because of clogging, foreign material trapped in the cartridge will not be recirculated through the engine. The new fuel filter has an element which is said to require replacement only at 30,000-mile intervals.

Clearance between the piston and cylinder bore has been increased and the [CONTINUED ON PAGE 190



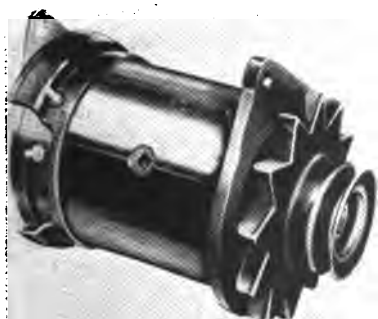
Falcon Squire, new addition to line, is four-door wagon with simulated wood panel, de luxe interior



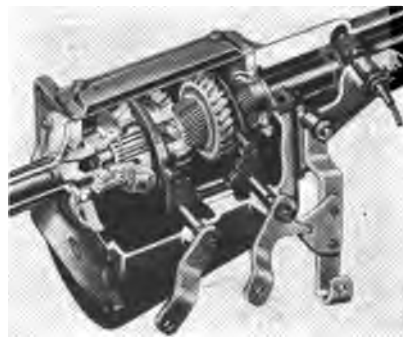
Falcon two-door sedan for 1962. New grille, imitation air scoop and straightened fender line are the most noticeable styling changes



Special side molding, fender ornaments and wheel cover identify the two-door, bucket-seat Futura



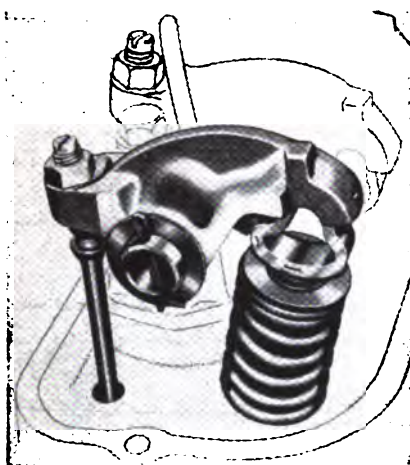
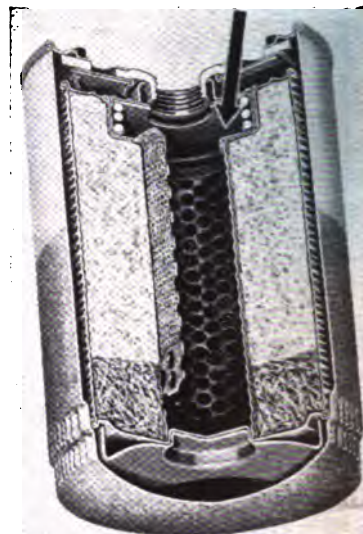
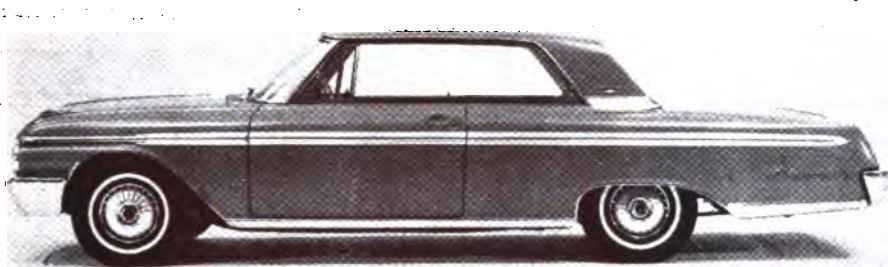
Rubber shield at commutator end of generator protects unit from dirt and road splash



Manual transmission with interlock in the linkage to prevent engagement of low or reverse unless clutch is fully disengaged

Ford Offers Two Full-Size Cars

Galaxie 100 and 500 only 1962 series . . . Rocker arms self-adjusting . . . Valve stems rustproofed . . . New heater for fuel . . . Service periods further extended



Ford Galaxie 500 two-door hardtop for 1962. Cars in new top series are ½ in. shorter and narrower than the corresponding 1961 models.

Mechanical, self-adjusting aluminum rocker arms, now standard on all Galaxie 6 cyl. engines

New oil filter, with bypass valve at top. Valve here prevents recirculation of foreign matter

For 1962, Ford has trimmed its line of full-size cars to two series—the Galaxie 100 and Galaxie 500. Later this fall, the new Fairlane will be added to bridge the gap in size between the Galaxie and Falcon.

Virtually identical in size and power to 1961 models, the Galaxie carries the company's program of extended service-periods a step further with the installation of a glycol-base coolant in all new cars. The coolant is designed to remain in the system for 30,000 miles or two years. It protects the system to 30 deg. below zero.

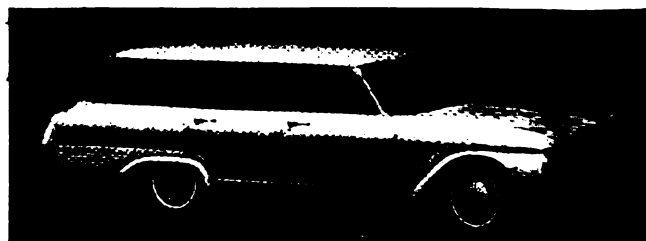
Two other service operations, repacking of front wheel bearings and replacement of the fuel filter, have also been stretched to 30,000 miles. Recommended oil-drain intervals have been increased from 4,000 to 6,000 miles.

Ford offers the same assortment of engines as in 1961 cars. Horsepower ranges from 138 for the 6 cyl. engine to 401 for the three-carburetor, 390 cu. in. V-8. A new option is a four-speed manual transmission with floor-mounted shift.

Mechanical, self-adjusting rocker arms, used in some 1961 6 cyl. engines, are [CONTINUED ON PAGE 195]



Galaxie 500 four-door hardtop. New roof and rear quarter panels are most noticeable style changes



Country Squire, one of five wagons in new line. Six and nine-passenger versions are offered



Sells More, Make More When You **PRE-WINTER SERVICE NOW**

As it has been ever since the automobile was invented, fall is the best season of the year for selling service. It could easily be bigger than it is. All it takes to push fall sales of merchandise and service a bit even higher is some extra promotional effort.

Car owners are accustomed to buying pre-winter preventive service. They seldom put up an argument when a garage or service station tries to sell them obviously needed service. They would buy a good deal more if the shop took the trouble to sell it to them through alert merchandising.

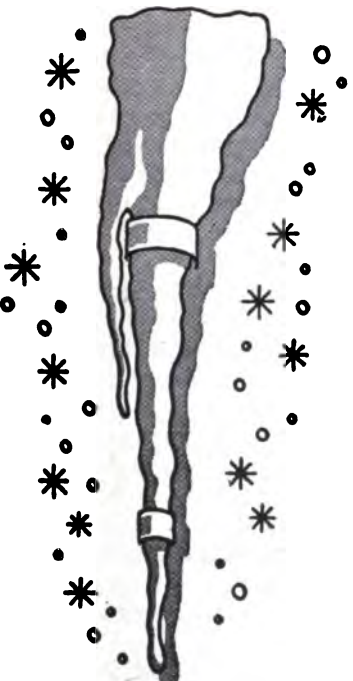
A mark of smart merchandising where pre-winter

service is concerned is an early start. A shop that waits until the first freeze strikes does not have to do any urging to bring customers in. But, on the other hand, the crush is usually so severe that it has no time to do a decent selling job.

Right now is the time to lay plans for getting the most out of the fall selling season.

This month and early next, there are two chief appeals that can be used. One is the specially priced pre-season package; the other the thoroughness that can be promised on work that is done before the crush starts.

[CONTINUED ON PAGE 64]



Waiting for the First Icicle?

If you're one of those owners who have to see the first icicle before they'll believe their car needs pre-winter service, here's the icicle.

Now you can stop waiting and watching and drive in to let us weather-proof your car for the stormy, freezing days ahead.

We'll install antifreeze—any type you wish—and check the cooling system, tune up the engine, adjust steering and brakes and supply everything your car needs for safe, comfortable winter driving.

Why not call us today, while we still have time to do a thorough, dependable job?

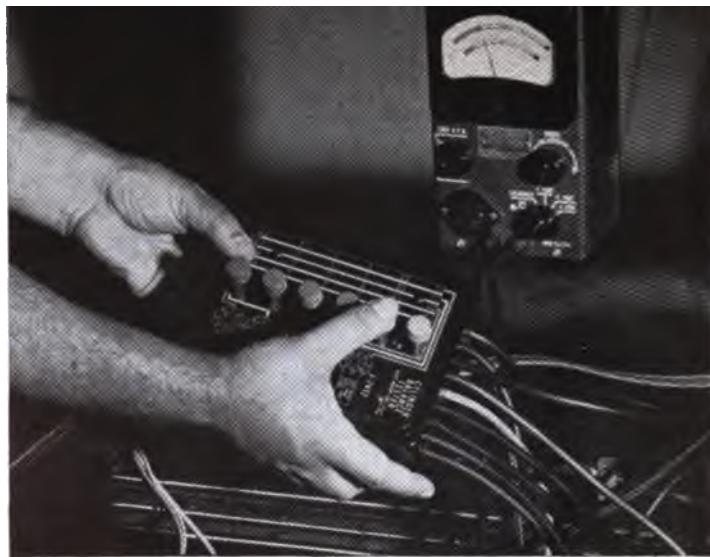
Brown's Automotive Service
631 Bank St.

Phone: PL 6-1493

Terms Arranged

An attention-getting ad, either newspaper or direct-mail piece. The "ici-

cle" is made of plastic, the kind often used to decorate Christmas trees



Cylinder balance test is started by first shorting out one bank of cylinders. Drop in engine speed is registered by tachometer

Offer Winter-Proof Tune-Ups

A first-class job is the short cut to customer satisfaction and extra revenue for the shop

The half-a-job tune-up is worse than none at all. This is because the plugs-and-points routine not only loses profits, it can lose the customer, too. A proper tune-up, using the equipment available today, is not a lengthy procedure. It takes only a little longer but it makes a world of difference in added profits and satisfied customers.

At this time of year especially, it doesn't pay to check only one or two items in the tune-up package. Every component that can affect performance must be checked, if the tune-up is to achieve the two desired results. One is, the engine will give maximum performance and economy. The other, equally important, is, the customer will enjoy trouble-free operation throughout the cold months ahead.

Compression is usually checked first on a tune-up, since an engine cannot be tuned satisfactorily when compression is below standard. Either a compression gauge or cylinder-balance test can be used. The latter method is gaining in popularity because it is faster and is made at operating temperature and speed. This is important in pinning down certain mechanical conditions, such as a broken valve spring, or missing under load due to faulty ignition.

On a balance test, the engine is run on the various pairs of banks, or groups, of cylinders at a predetermined throttle setting with the other cylinders cut out. A tachometer and vacuum gauge are used to compare engine speed and vacuum of the various cylinder groups. With equipment available, the vari-

ous cylinders can be cut out by pressing a button. Keep in mind that secondary cables should not be punctured when making connections for the test.

A variation from the preset speed of more than 50 rpm or 1 in. vacuum indicates a deficient power output. The loss could be in one or both cylinders and the source of trouble is pinpointed quickly by making comparative tests on a corresponding pair of cylinders. Carburetor trouble can be ruled out if only one cylinder is weak. If all cylinders fed by one bank of the manifold are weak, the trouble is in the carburetor or a leaking manifold.

Fire Plug Electrodes

A spark-plug oscilloscope quickly checks plug performance. However, they must be removed, inspected and serviced or replaced on a tune-up to assure extended trouble-free performance. Don't forget to file the electrodes when servicing the plugs. This makes a big difference in the amount of voltage required to fire them.

Check the ignition wires carefully and replace any that are brittle or damaged. Make sure the wires are properly placed in their supports on V-8's to avoid crossfiring.

Inspect the rotor and cap, and clean any corrosion from the wire sockets in the cap. Close inspection is needed to locate carbon tracks and cracks. Because badly burned points are an [CONTINUED ON PAGE 191

Ready for Winter Get-Ready?

There are cash rewards for the garage or service station that sells the thorough, dependable cooling-system service outlined here

If there is anything easier than selling sunburn lotion at a nudist camp, it is selling cooling-system service the day after the first freeze. The trouble is, it is so easy that lots of repairshops and service stations do not bother to do any selling at all; they let customers buy it.

Most car owners think of winter service as installing antifreeze and nothing more. Even that is not the simple matter it used to be, and it is still only the beginning of a necessary service that can help the car owner get through the winter without trouble and, at the same time, bring in some legitimate added revenue.

Selling antifreeze a few years ago was a lead-pipe cinch. All the "sell" a shop had to use was the question, "Alcohol or permanent?"

With alcohol no longer a great factor, the ethylene glycol types come in at least three degrees of permanence: 1. The old "permanent," 2. the year-round kind, 3. the permanent permanent. As these vary in the length of time they provide protection against freezing, so they vary in price.

Servicemen will not be able to sell the more expensive grades to every customer but they at least ought to explain the advantages of each. While the final choice is the customer's, he has nothing to choose among if the station automatically installs the least expensive antifreeze and lets it go at that.

Strangely enough, the second evil to be guarded against in winter operation of a car is not freezing but overheating. Damage from this cause can be even more extensive than the ills that follow in the wake of freezing. Burned valves, scored cylinders, seized pistons, failure of engine bearings, damaged piston rings and warped cylinder heads are among the unfortunate results of excessively high temperatures.

All this can be avoided by taking the trouble to examine the cooling system and persuading the car owner that the indicated work ought to be done. Detecting the needs is easy enough; determining what is to be done requires the latest data on cooling-system service and a desire to do a dependable job.

Causes of overheating under winter conditions are many. To name only [CONTINUED ON PAGE 187]

An ad like this in a local newspaper or on a postcard will persuade some customers to get their winter conditioning done early

DON'T APE OLD FAITHFUL

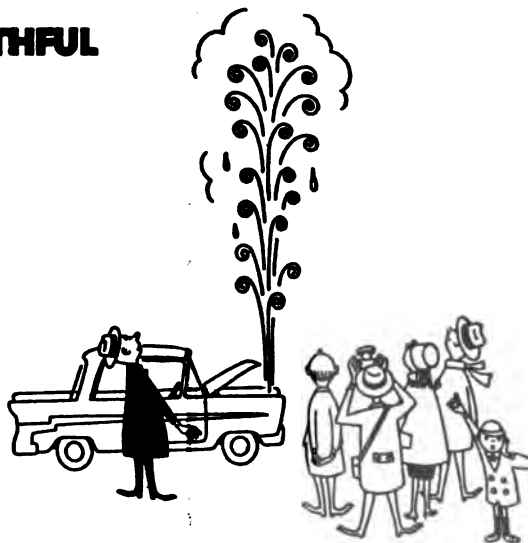
Cars are made to take you where you want to go, not to imitate a geyser to entertain street crowds.

Make certain it won't happen to you. Let us get the cooling system of your car ready for the frigid months ahead. We'll test the system for leaks, check the radiator, pressure cap, hoses, thermostat and water pump. And install the type of antifreeze you prefer.

Remember, this week only \$00.00*

MAIN ST. AUTO REPAIRS
Main and Washington

*Some types of antifreeze higher





Hammer and special tool are used to restore a crimped tailpipe end to its original roundness

It's Exhaust System Service Time

A complete check and replacement of defective units vital at this season of year

It can be a serious mistake to overlook the exhaust system when preparing a car for the rigors of winter motoring. You might even lose a customer—permanently!

Carbon monoxide fumes are deadly. They become the greatest threat when the temperature plummets and drivers close their windows. Under these conditions, a faulty exhaust system can be a menace.

Leakage is not the only trouble that can occur. Restrictions in the system may cause severe loss of power at high speed, shorten the life of exhaust valves and contribute to engine overheating.

While most car owners and some repairmen think of exhaust systems in terms of mufflers and tailpipes, complete exhaust system service takes in much more.

In addition to mufflers and pipes, a complete check of the system extends to exhaust manifolds, their mountings and gaskets, and various mounting brackets, hangers and extensions, all of which can add up to extra shop profits.

The nice thing about it all is the exhaust system is probably the simplest part of a car to check. This is true because a visual inspection can quickly detect obvious corrosion and leakage points, broken hangers and the like. Further, removal of exhaust components can be done in fast order in most cases by using special timesaving tools.

There is no mystery to building a profitable exhaust-system business now and in the months ahead. First, a shop must ferret out the prospects. This means inspecting all cars that come into the shop.

Then the repairman must be in a position to offer "while-you-wait" service.

People have been conditioned by specialty shops to expect rapid service, which any repairshop can duplicate by using up-to-date tools. Last, to assure total customer satisfaction, all parts of the exhaust system must be checked and, when necessary, adjusted or replaced.

With the exception of gasket replacement, the exhaust manifolds themselves rarely require service or replacement unless they have been cracked or damaged in an accident. It is a good practice, however, when replacing pipes or mufflers to check the manifold mounting bolts or stud nuts for tightness, particularly if locking tabs are not used. Torque reaction, or rocking motion, of the engine tends to oppose the leverage of rigidly mounted pipes, causing manifold bolts to loosen slightly.

When inspecting the exhaust units, look for kinked pipes, as well as tailpipes that have been crimped at the end or pushed up behind the rear bumper. Such damage produces back pres- [CONTINUED ON PAGE 215]



After muffler or pipe replacement, manifold mounting bolt should be checked for tightness



permit adjustment of air
er, cable clamp of con-
loosened. Damper must
to shut out cold air



When air circulation in car falls,
check current draw of blower
motor with ammeter to deter-
mine cause of low blower speed



Heater Service a Fall Natural

Putting this unit and defroster in shape for a
winter's hard work is easy work to sell and do

Heaters and defrosters that really work play a vital role in the safety and comfort of the car owner during the winter months. Yet how many repairmen make it a practice to inspect and test these important accessories as a part of their regular fall service? It takes but a few minutes to check the operation of these units. Calling the customer's attention to any problems you uncover and correcting them promptly assures him that heater and defroster will be ready to do their jobs when he needs them.

Before testing the operation of the heating system, check the fresh-air intakes, ducts and hoses. Remove any leaves, paper or other foreign material from the intakes. Be sure ducts and hoses are tightly sealed and properly aligned to prevent air leaks. A worn hose should be replaced. Examine the heater hoses and call the customer's attention to any which are soft or cracked.

With the engine warmed up and the heater temperature control in its lowest position, check the operation of the blower in all speeds. If it does not run, look for a burned-out fuse, faulty switch or defective wiring. In the event that blower speed seems

to be too low, check the current draw by connecting an ammeter into the circuit between the hot terminal of the heater switch and the low-speed lead of the heater motor. Repeat the test on the high-speed lead and intermediate-speed lead, if any.

Specified current draw varies among different makes and models, but 3 to 4 amp. is about average for the low-speed circuit and 4 to 5 amp. for the high-speed position. Heaters equipped with three-speed blowers usually draw more current—about 6 to 7 amp. at the highest speed.

When the blower operates properly, check temperature and air circulation. With the temperature control knob or lever still in the lowest position and the blower at its highest speed, a substantial volume of air at approximately room temperature should come from the heater outlets. If the air is hot, the temperature-control valve cable is probably out of adjustment, preventing the valve from closing completely.

To adjust the temperature control, loosen the cable and hold the valve in the fully closed position. Move the control lever or [CONTINUED ON PAGE 220]



Sell TBA for

Safer Winter Driving

Snow tires, tire chains, batteries, windshield de-icers and similar products can be sold now to customers who value cold-weather dependability

The winter of 1960-61 was a virtual nightmare for most of the nation's car owners. Successive snowstorms and sustained periods of sub-zero temperatures played havoc with automobiles and their hapless owners.

Tired batteries wouldn't cooperate on cold mornings, regular tires failed to gain traction at critical moments, worn wiper blades could not remove all the snow, and heater-defrosters simply couldn't work fast enough to clear the frozen sleet from windshields of cars that had been left exposed to the elements.

If Mr. Car Owner recalls all the inconveniences and hazards he encountered during the long winter of 1960-61, he may do something about it this year. But don't count on his remembering! People have the happy faculty of forgetting unpleasant experiences.

Thus, the chore—and opportunity—of reminding customers of last year's ordeal falls into the lap of the garageman and service station operator. It is their responsibility to prod their customers into preparing for this year's winter motoring conditions—and that means purchasing needed tires, batteries and accessories.

The sooner the repairman begins his prodding, the better off he will be. He will, for one thing, gain the inside track on the sale of highly profitable, fast-moving winter TBA items—snow tires, tire chains, batteries, wiper blades, windshield de-icers and similar products. Even if a sale doesn't sell today, at least the idea has been planted in the customer's mind.

If it benefits the repairshop operator to promote winter TBA items early, so, too, does the customer benefit by making his purchases this or next month.

Shops are well-stocked now and customers have their choice in selection of quality and prices. This was not the case early last winter when repairshops and stations ran out of tire chains due to heavy demand.

Any shop interested in boosting TBA sales now and in the months ahead would do well to key sales pitches to the *safety* characteristics of winter TBA merchandise.

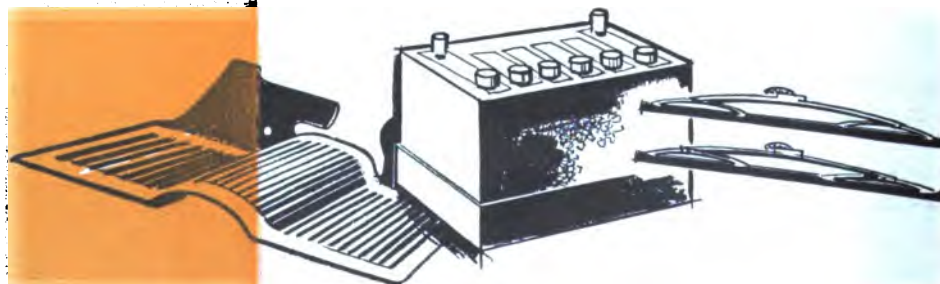
Take tires, for instance. An automobile stays under control of the drive as long as its wheels continue to roll. Snow tires dig in and get far better traction than do regular tires. In most cases, they can keep a car safely on the move throughout the winter. But the best guarantee a motorist has that his car will roll safely on snow- and ice-covered roads is to use tire chains.

Good Visibility Vital

Traction is only one aspect of safe winter driving. To avoid danger, a motorist must first see it. Worn wiper blades are a hazard any time of the year, but more so during the winter. Driving conditions are bad enough when the snow starts to fly without a motorist being further handicapped by poor visibility.

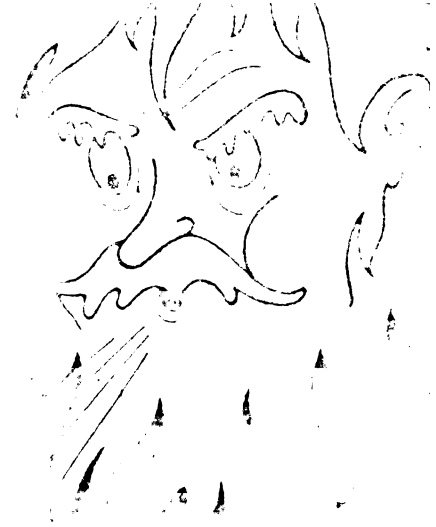
Speaking of visibility, a relatively new product on the market that is highly salable as a safety item is windshield de-icer. Some customers have learned the wisdom of keeping a can of this product in their trunks for emergency use. Related to this product is a liquid which prevents car and garage locks from freezing. It can also be used to free up locks that have frozen.

One vital product often [CONTINUED ON PAGE 188]





Measuring front-end height of car equipped with torsion bars. This must be right before the wheels can be aligned properly.



Build Demand for Better Handling

This is how to sell owners the idea that fall is the time to get front ends and steering in shape for winter

At no time during the year are the handling characteristics of an automobile quite so important as they are when the highways have been made treacherous by ice or snow and when side roads are rutted and full of chuckholes. Car owners can be sold on the wisdom of having the suspension and steering of their cars checked and the sale can mean money in the bank for the repairman who knows just what and how to sell.

The strains and jolts of winter driving will fall, naturally, on ball joints, tie-rod ends, wheel bearings, steering gear, shock absorbers and springs. It is these parts that the sales-minded repairman will persuade his customers to let him service before fall and winter weather get too brutal.

This persuasion should not be difficult because front-end and steering defects usually show up in the form of excessive or odd wear on tires. It is obvious, too, that loose or worn front-end and steering-system parts are in no condition to withstand the pounding they will get under rigorous driving conditions. Mis-

alignment of the front end and consequent poor handling are certain to ensue.

A further, and often telling, argument is that looseness in front-end and steering parts is an open invitation to winter road splash to enter and set up corrosion. Water, foreign matter and road salt are bad enough but moisture clinging to ball joints, tie-rod ends and pivoting points in the steering linkage can freeze when the temperature drops and make handling stiff and erratic.

Proper inspection now will uncover the wear and damage of front-end and steering components that can lead to trouble in the months ahead. Few car owners will argue with the serviceman who can demonstrate that the front end of his car is out of alignment or can show him actual worn or damaged parts.

Wheel alignment in reality is no more important to proper handling and tire wear in the fall than at any other season but, if it is even slightly incorrect now, the punishment the front end takes in some types of winter driving will make it worse. So close inspection in the fall is well-advised.

Alignment of the front wheels is no problem to an experienced mechanic. What causes many comebacks for allegedly faulty adjustment is the failure to check related factors.

For example, toe-in cannot be adjusted properly if the tie-rod ends are worn or [CONTINUED ON PAGE 217]



A defective wheel bearing can be detected with a torque wrench. If the reading fluctuates as wheel is turned, either the bearing or cap should be replaced

SELL PRE-WINTER SERVICE NOW

continued from page 57

Every shop has a choice as to the methods it uses to promote seasonal merchandise and service. Advertising is a natural. It can be done through local newspapers, by direct mail or by radio. The choice will depend on the location of the shop.

Local newspapers, particularly weeklies, will usually be cheaper than any other medium, but they cover whole areas, whether the shop can or wishes to service cars in certain parts of the locality. Direct mail lets the shop pinpoint its sales pitch to the very people it wishes to reach.

Displays Boost Sales

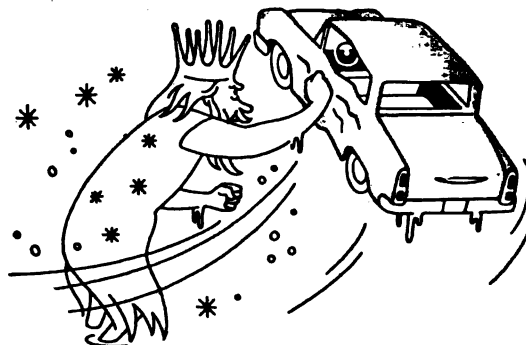
Displays of winter merchandise, on the pump islands, in the windows or on the counters of the shop office, can be extremely effective in boosting sales. These cannot be expected to do the whole selling job because little winter merchandise can be termed impulse items. They can, however, set the car owner to thinking about oncoming winter. A few well-chosen words by the garageman or service station operator can often close the sale.

The items that can be tied into pre-winter service are almost limitless. Most obvious, of course, are antifreeze, thermostats and other cooling system parts, heaters, headlights, snow tires, batteries. It is a good thing to display tire chains simply to let customers know the shop carries them.

Packages of winter service jobs, offered at a special price for a limited number of days before cold weather sets in, can boost sales if properly presented. Usually, related items are best to package. For example, antifreeze can be offered in connection with inspection of radiator, hoses, water pump and thermostat.

The point to stress, more than price or even free inspections, is the thoroughness which early attention to a car's winter needs makes possible.

Some slogan can be dreamed up to dramatize these facts. One such is "We *prepare* your car for antifreeze." Another "We *cold-proof* your car." Or "Our kind of service defies winter."



Beat Winter to the Punch

Our pre-season special will completely weather-proof your car

Only \$00.00*

- Install antifreeze
- Check cooling system
- Inspect heater and defroster
- Adjust carburetor
- Inspect manifold heat control valve
- Check muffler and tailpipe
- Check generator charging rate
- Check voltage regulator
- Test brakes

Enjoy worry-free driving all winter.
Drive in today.

* Antifreeze extra, depending on type

EMERY GARAGE

Duke and State Streets

Phone 5-1237

One example of a specially priced "package" that can be used to attract customers earlier in the fall

Slogans carried in advertising can also be translated into window streamers or even lettering on the windows themselves. Nothing should be overlooked that will let car owners know that the shop makes a specialty of getting vehicles ready for the rough weather and tough driving conditions that lie ahead.

In the other pages of this special section, you will find articles dealing with several types of service, as well as merchandise, that can best be promoted when winter is in the offing.

In some cases, you will find tips on getting customers interested in buying the goods and the labor you have to sell. In every instance, you will find hints on doing work completely, dependably and quickly.



Simpler grille, one-piece bumper and raised headlamps give fresh appearance to this Continental sedan for 1962

Lincoln Easier to Maintain

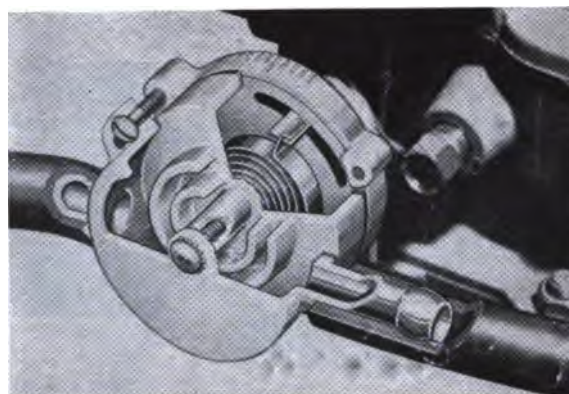
Numerous minor changes on 1962 Continental provide greater quiet and durability . . . Two body styles continued

Lincoln Continental for 1962 retains the basic theme of last year's model—a car of moderate size in the luxury class. Minor styling changes establish identification of the new edition, while mechanical refinements are designed to reduce the need for periodic maintenance, provide quieter operation and increase durability. As in 1961, a four-door sedan and a four-door convertible are the only models offered.

A one-piece bumper and simpler grille give a somewhat cleaner front-end appearance. Headlamps have been raised 1 in. to improve illumination. The lower back panel has been restyled to match the texture of the grille. Wheel covers are new, and narrow-band whitewall tires are standard.

The 300 hp, 430 cu. in. V-8 engine is unchanged in size and power output. A water-heated automatic choke replaces the conventional exhaust-heated type. Water from the heater outlet elbow controls the choke position. This arrangement, according to Lincoln engineers, eliminates overchoking and excessive operation on the fast-idle setting when the engine is started and stopped frequently during cold weather.

Since water in the cooling system retains heat longer after shutdown than air heated by the exhaust manifold, the choke remains off when the engine is restarted after a brief stop. The new choke is said to improve gasoline mileage by up to 1 mpg, reduce creep at stoplights and eliminate the possibility of choke malfunction due to dirt or carbon in the choke housing. It also prevents choke enrichment at high



New water-heated automatic choke, designed to prevent short-trip overchoking

altitudes, where low manifold-vacuum can sometimes result in insufficient warm air being pulled into the choke housing.

The cooling system is filled at the factory with a glycol-type antifreeze containing sufficient rust inhibitor, Lincoln claims, to last 30,000 miles or two years.

The crankcase dipstick now has a tapered rubber seal, in addition to the metal cap, to keep dirt out of the engine.

The use of flanged connections throughout the exhaust system is continued. The exhaust pipe flange at the exhaust manifold connection has been made heavier, while studs and nuts have been strengthened. Exhaust pipe hangers are completely insulated from the body by rubber mountings.

A rubber shield has been added at the brush end of the generator to prevent entrance of dirt or water. Trailing brushes, which [CONTINUED ON PAGE 216

Oldsmobile Boosts Compression

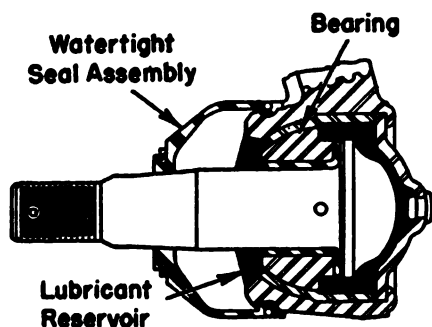
Design change ups ratio to 10.25 to 1 . . . Ball joints sealed . . . Starfire model added . . . Convertible joins F-85 series . . . Turbo-charged sports car to come



Convertible, new addition to F-85 series for 1962. Styling changes of series include a one-piece grille and ribbed hood



Dotted lines on new combustion chamber show shape of 1961 version. Design change aids breathing at high speeds



Packed with grease containing molybdenum disulphide, this lower ball joint assembly requires no periodic lubrication



Two-door hardtop which joins the Starfire series. These bucket-seat cars are powered by 345 hp engine. Wheelbase is 123 in.

Three new sport models, two F-85 convertibles and a Starfire two-door hardtop, join the Oldsmobile line for 1962.

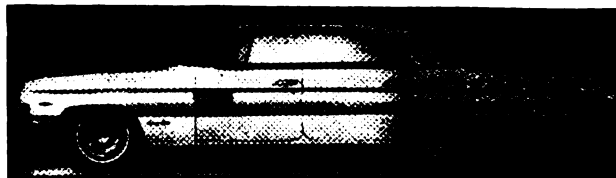
Among the mechanical changes in the full-size cars are a new combustion-chamber design with higher compression ratio, sealed front-suspension ball joints to eliminate the need for chassis lubrication and recalibrated Hydra-Matic control valves. A limited-production sports car, to be introduced early this winter, will have a turbo-charged F-85 engine.

All full-size Oldsmobiles, except the Starfires, now have a compression ratio of 10.25 to 1, although the Dynamic 88 can be furnished with a lower-compression 8.75-to-1 engine at no extra cost.

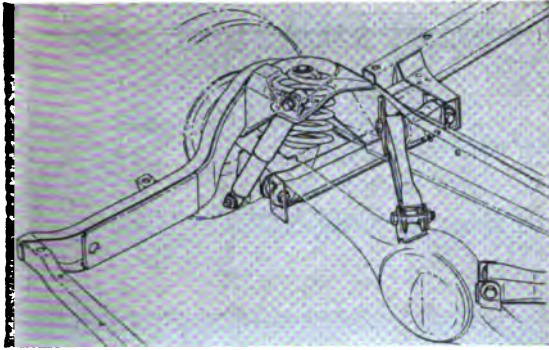
The increase in compression ratio from last year's figure of 10 to 1 results from a redesigned combustion chamber, which is also said to improve the en-

gine's breathing ability at high speed. The roof of the chamber has been lowered and the contour in the vicinity of the spark plug changed from a sharp shoulder to a gentle curve. Pistons are dished, instead of flat, at the top. Starfire models incorporate slight modifications to the chamber which increase compression ratio to 10.5 to 1.

The turbo-charged aluminum engine is equipped with an exhaust-driven supercharger. Hot gases drive a turbine, which turns the [CONTINUED ON PAGE 202]



Like all full-size models for 1962, this 98 four-door hardtop is 2 in. longer. New roof and fender lines emphasize length



Changes in new rear suspension include rubber control-arm bushings, revised shock mountings



Two-door hardtop in Bonneville series. Like other models, it is .4 in. wider for 1962

Pontiac Adds Grand Prix

Luxury two-door has 303 hp engine . . . Ventura series dropped . . . All 1962 cars longer . . . Exterior lines are new

Pontiac has reversed the trend to shorter, narrower cars by making its 1962 models slightly larger than predecessor products. Reversing another industry trend, the company has reduced its line by one unit, instead of adding models.

The Ventura series, a two-car line, has been dropped. A new offering, which becomes top-of-the-line on price, is the Grand Prix. It consists of a single model, a two-door sports coupe with luxury appointments. This realignment brings the number of models down to 14.

Over-all length of all models, excluding station wagons, has been increased 1.6 in. Catalina and Grand Prix series measure 211.6 in. Star Chiefs and Bonneville are up to 218.6 in. Wagons, measuring 211.4 in. over-all, are 1.7 in. longer than for 1961.

Exterior width of all models is 78.6 in., an increase of 0.4 in. over 1961. Heights range from a low of 54.5 in. for the two-door hardtop to 56.9 in. on wagons. In the previous model year all models measured 55.8 in. high.

Wheelbases have also been extended on all models except wagons, which continue to measure 119 in., same as for 1961. Wheelbase of the Catalina series is up 1 in., now measuring 120 in. Star Chiefs, 119 in. for 1961, are now built on a 123 in. wheelbase, along with Bonneville, which are unchanged from 1961. Grand Prix wheelbase is 120 in.

Pontiac continues to offer one of the widest assortments of engine options in the industry. The 13 engine and transmission combinations have undergone minor modification, although compression ratios, displacement, horsepower and torque are unchanged from 1961. Standard with synchromesh trans-



Bonneville convertible. Wheelbase is unchanged but over-all length is now 218.6 in.



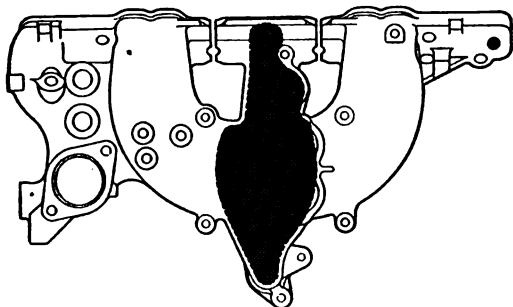
Over-all length of wagons has been extended 1.7 in. for 1961. This is the Bonneville

mission on the Catalina and Star Chief is an 8.6-to-1 compression ratio V-8 engine with two-barrel carburetion. The Bonneville engine has an 8.6-to-1 compression ratio and four-barrel carburetor. Standard on the new Grand Prix is a four-barrel 10.25-to-1 engine, delivering 303 hp at 4,500 rpm. Torque rating is 425 lb.-ft. at 2,800 rpm. Premium fuel is required.

As on Pontiac's compact, Tempest, intake manifolds have larger area heated [CONTINUED ON PAGE 222]

Tempest Offers Convertible

Five models in 1962 line. . Three optional powerplants beefed up. . Chassis lube extended from 2,000 to 4,000 miles. . Suspension system changed



Heated portion of intake manifold, indicated by shading, has been increased

New addition to the Tempest line for 1962 is this two-door convertible



Two-door sedan, one of five 1962 models offered by Tempest

Tempest, broadened from a two-car line to four models during the 1961 model run, has added a fifth body style for 1962—a convertible coupe.

Compact companion to Pontiac, Tempest has foregone styling furbelows to concentrate on mechanical changes. A few styling alterations have been made to distinguish the new model from its predecessor, but the important innovations on this make are mechanical.

Although the standard engine, a tilted 194.5 cu. in. 4, is unchanged from last year, horsepower is higher on the optional V-8 engine. This aluminum block powerplant is now rated at 185 hp (versus 155 for 1961) at 4,800 rpm and develops 230 lb.-ft. of torque at 2,800. Increase is due to a boost in compression ratio from 8.8 to 1 to 10.25 to 1 and a four-barrel carburetor.

Another optional 4 cyl. powerplant, paired with an automatic transmission, has a single carburetor and a compression ratio of 8.6 to 1. Horsepower, 110

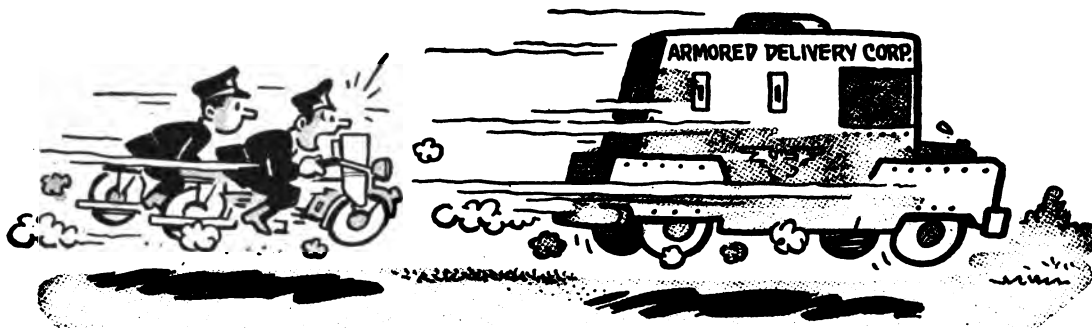
at 3,800 last year, has been upped to 115 at 4,000 rpm.

Horsepower of the 4 cyl. engine with four-barrel carburetor and 10.25-to-1 compression ratio, available with either synchromesh or automatic transmission, has been increased from 155 to 166 at 4,800 rpm. Torque rating is 215 lb.-ft. at 2,800 rpm.

Several changes have been made in engine design in the interest of fuel economy. Intake manifolds have a larger area heated by the exhaust and new flow diverters to increase the heating efficiency of exhaust gas, shortening the engine warm-up period and thereby saving on fuel on cold starts. Along with the design changes on manifolds, single-barrel carburetors on 4 cyl. engines have been recalibrated to increase fuel economy on level-road operation. Company engineers claim to have effected a slight additional savings on fuel by enlarging the air-cleaner inlet tube.

In line with an industrywide trend aimed at reducing maintenance costs for motorists, the new car has fewer lube points and requires less frequent lubrication than the previous model. The distributor, like rear axle and transmission, is now lubricated for the life of the vehicle. This has been done by building a reservoir and wick oiling system into the distributor. The chassis lubrication interval has been extended from 2,000 miles to 4,000 miles "under normal driving conditions." The crankcase oil drain interval remains at 4,000 miles—but the 1,000-mile break-in change has been eliminated.

The suspension system has [CONTINUED ON PAGE 186]



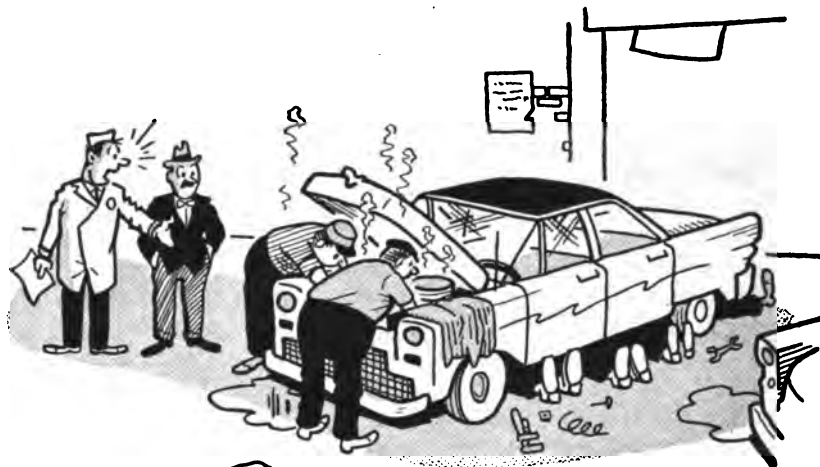
"Gosh! J'ever see money go so fast!!"

Mechanical Musings

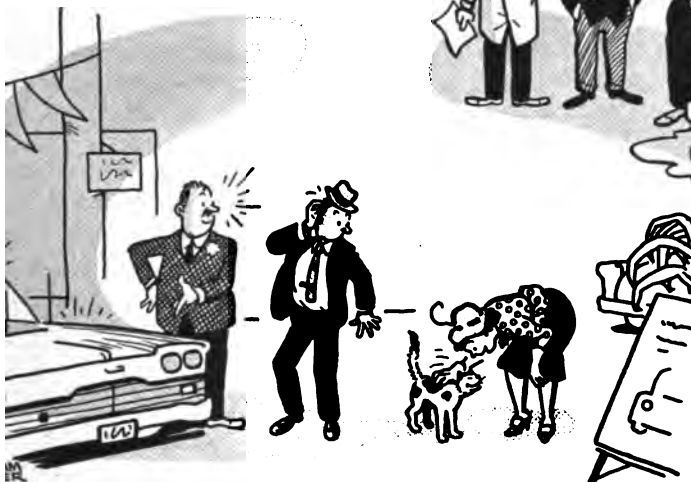
By Graham Hunter



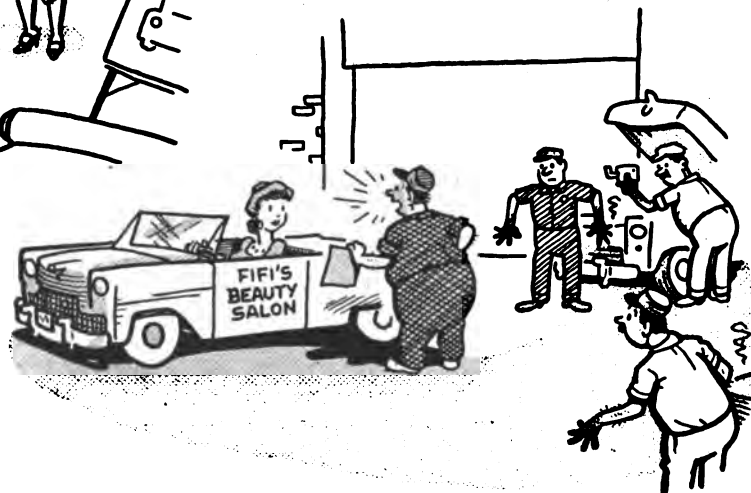
"Ace Employment Agency?
What we want is a good
mechanic between 25 and 35
with 40 years' experience"



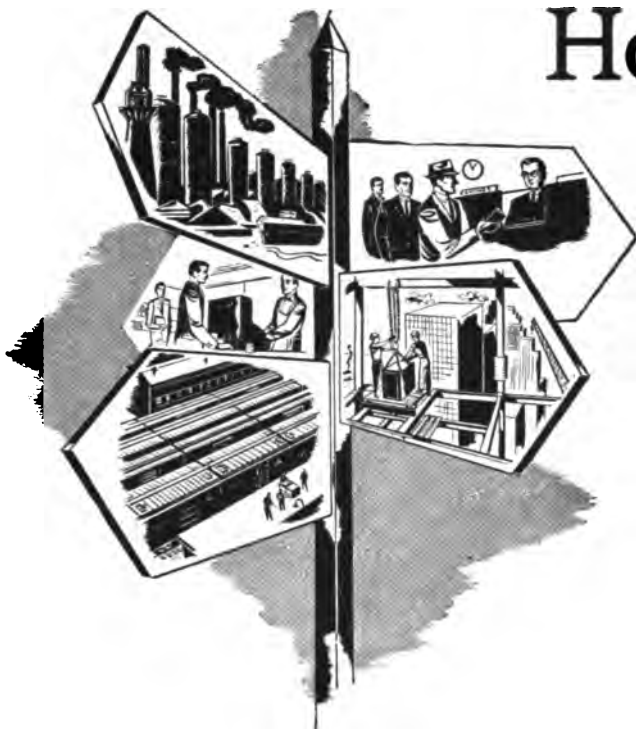
"May I commend you, sir,
on the boost your car is giv-
ing the nation's economy!"



"If it'll make your wife any
happier about buying this car
we'll throw in the office cat"



"We'd like to let you trade out your
repair bill, ma'am, but really none
of the boys want a manicure now"



How's Business?

MOTOR'S Monthly Summary

predict 1961's construction outlays will total a record \$57,500,000,000, up 4 per cent from the 1960 level.

EMPLOYMENT. While the number of job holders dropped to 68,499,000 in July, unemployment decreased by 440,000 to 5,140,000. Approximately 6.9 per cent of the labor force was idle. This figure is not likely to drop below 6 per cent by year's end.

PRICES. Wholesale prices have fluctuated within a narrow range in recent months. In one week last month the index rose 0.2 per cent to 118.9 per cent of its 1947-49 base. Consumer prices, on the other hand, have been edging up and may continue to do so this and next month.

CREDIT. Despite the upturn in business that began early in the year, the volume of loans of the nation's commercial banks has not shown any marked increase. Hence, interest rates have held relatively steady. Consumer instalment credit, however, is on the upswing following the slowup which occurred during the recession.

RETAIL SALES. In July retail sales fell to \$18,100,000,000 from \$18,300,000,000 in June. The July figure was approximately equal to that of July, 1960. Economists maintain that because of the record level of personal income and the reduction in instalment debt, retail sales should pick up this month.

CARLOADINGS. This is the month that rail freight loadings are expected to begin an upward climb, continuing right through the year. While rail carloadings lagged, intercity truck tonnage last month was running slightly ahead of 1960's pace. Truck tonnage should spiral this month and next.

PERSONAL INCOME. There is more money jingling in the pockets of the nation's citizens, according to latest report released by the Dept. of Commerce. Personal income is running at an annual rate of \$419,000,000,000, \$15,800,000,000 higher than the February, 1961, recession low. Outlook is for income to continue rising in the months ahead.

PRODUCTION. Industrial output spurted from 110 to 112 per cent in July. Further increases in overall activity should occur this month and carry through to December. Steel and copper producers, in particular, are optimistic about future output aims.

Business Activity to Quicken

Barring any major labor-management disputes, the economy should move into high gear this month and continue to roll right through the remaining months of 1961 and even into the first quarter of the new year.

The pace of recovery from the recession from April to July was quick and constant. Even the traditional summer slowdown failed to materialize, as over-all business activity held at high levels in July and August.

In fact, the nation's industries set a production record in July when the index climbed from 110 to 112 per cent of the 1957 average. Also, new construction outlays set a record this summer, hitting an annual rate of \$58,700,000,000.

Consumer annual income rate which is rapidly approaching the \$420,000,000,000 mark, should spurt, carrying along with it greater expenditures for durable and nondurable merchandise.

If people have more money, they are apparently in the right frame of mind to part with it. Several surveys made recently of consumer attitudes and intentions to buy in the near future indicate that people have confidence in the economy and are ready, willing, and able to make important purchases.

All major economic barometers point to brisk business activity in the months ahead.

CONSTRUCTION. Outlays for construction rose to a record rate in July. Expenditures on new building projects for the month ran at an adjusted annual rate of \$58,700,000,000, up from the preceding month's \$57,800,000,000. Economists in Washington

actory Service Slants

Detroit experts keep you up-to-date on latest repair changes and procedures



CADILLAC Water Pump

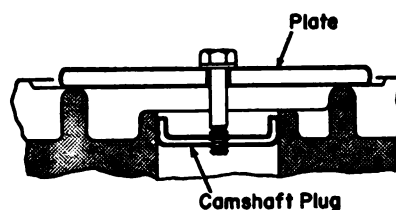
overhauling the water pump on a 1959-61 Cadillac, the pump should be removed to remove any scratches, signs of wear. However, the seat should not be ground away. Measure the depth of the seal seat after the refinishing operation. To check, place a straightedge across the gasket surface of the pump housing, with a steel ruler at a right angle to the straightedge, measure the distance from the cover gasket surface on the pump housing to the seal seat surface. If the distance exceeds $1\frac{1}{32}$ in., install a new housing or a complete pump. When the distance exceeds this dimension, there is not enough pressure on the seat to make a good seal.

COLETT, CORVAIR Brake Adjustment

The recommended back-off for setting a brake-shoe adjustment has been changed on some models. Like the adjustment on the Chevrolet, the $\frac{1}{2}$ -ton 1961 model on 1960-61 Corvairs, the spur wheel on the shoe is turned by a screw to obtain a light drag on the brake. Place both hands on the wheel and rotate the wheel when the drag is established. The proper drag is established by backing off the spur wheel on all the models except the 1961 Corvair

"95," including Greenbrier. On the 95 and Greenbrier back off 12 notches on front brakes and 15 notches on rear brakes.

DODGE, PLYMOUTH Easy Plug Removal



Screw is inserted through center of steel plate and threaded into tapped hole

The proper procedure should be used when the camshaft core plug must be removed from the rear of an aluminum cylinder block.

First take off the transmission. Remove the flywheel or converter and, on a manual-transmission car, the clutch housing. Now, with a sharp punch approximately $\frac{1}{8}$ in. in diameter, punch a hole in the center of the cap. Tap the hole with a 10-24 thread.

Next, drill a $\frac{1}{4}$ in. hole in the center of a suitable steel plate which can be placed across the supports on each side of the plug. Insert a $1\frac{1}{8}$ in. long 10-24 screw through the center of the plate and thread it into the hole in the plug. Continue to turn the screw until the plug is pulled out of the base. Be sure all foreign material is removed from the bore before installing the new plug.

BUICK

Eliminates Buzzing

A buzzing noise on a Special equipped with air conditioning may be caused by fuel-line vibration due to a pulsing of the fuel pump. A quick check of the cause can be made by pinching off the vapor-return line. If the noise disappears, the trouble is caused by pump pulsation.

A correction can easily be made by installing a fuel-line air dome package, part No. 1289806, which contains an air dome, tee and connector. Connect the air dome to the pump at the fuel pump inlet.

CHRYSLER

Improves Fuel Economy

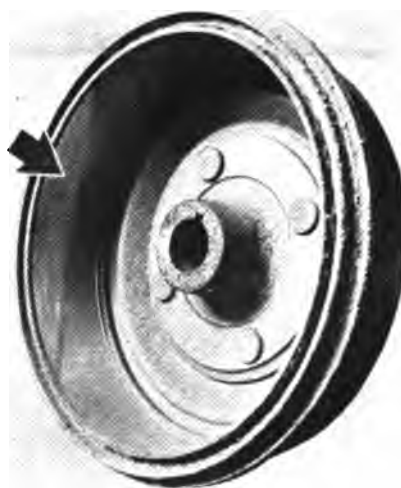
A damaged or distorted vent reed on a Stromberg WWCS carburetor on a 1961 Newport can affect fuel economy. In checking a mileage complaint on this model, examine the valve seat on the carburetor for roughness or unevenness that might prevent proper sealing of the rubber valve at wide open throttle. Adjustment of this valve should be made after the pump travel setting.

To make the adjustment, set the idle speed screw to curb idle, hold the throttle in the closed position, and the choke wide open. Now measure the opening of the bowl vent valve, at the center of

[CONTINUED ON PAGE 72]

What Caused This?

This rear brake drum was removed for a brake relining job. Before it was taken off, there was no indication that other than a simple relining was required. However, when the drum was mounted on the lathe and a cut taken, the low area on the drum, indicated by the arrow, showed up. The other rear drum wobbled so badly on the lathe no attempt was made to turn it down. Do you know what caused this? A clue can be seen in the picture and the complete answer is on page 156.



Factory Service Slants

continued from page 71

the hole, with the rubber valve hanging free. The specified opening is .062 to .094 in. If an adjustment is required bend the bowl vent lever to obtain the proper opening.

CORVAIR

Prevents Thermostat Leak

Improper installation of the thermostat rod swivel, at both the left and right damper door, can cause a bind at the thermostat stem. This could result in leakage and failure of the thermostat.

The pin portion of the swivel, which goes through the door bracket, must always be inserted from the inboard side of the damper-door bracket. The pin portion of the swivel will then point outboard when it is in place.

LINCOLN

Stop Oil Loss

Improper installation of the dipstick on a 1960 Continental can result in a loss of automatic transmission fluid through the transmission vent.

The transmission is vented

through passages built into the rear pump. The dipstick has a seal at the filler tube. If oil is being lost from the bottom of the rear pump, check to be sure the dipstick is properly locked in place. At road speeds, if the dipstick is not properly secured, fluid can be forced out of the vent.

MERCURY

To Adjust Fast Idle

To adjust the fast idle on 292, 352 and 390 cu. in. engines of 1961 models, first bring the engine up to normal operating temperature. Then shut off the engine and install a tachometer.

Set the fast-idle mechanism by opening the throttle lever and manually closing the choke plate. Release the throttle with the choke plate closed to hold the fast-idle cam in the fast-idle position. Now, without touching the throttle lever, start the engine. Engine speed should be 1,500 rpm on engines with standard transmissions, and 1,700 rpm on those with automatic transmissions.

If a speed adjustment is required, stop the engine and turn the adjustment screw to obtain the required increase or decrease in speed. Repeat the procedure to recheck the results.

Do not attempt to make a final

setting by turning the adjusting screw while the engine is running on fast idle.

COMET

Placing Rear Cam Bearing

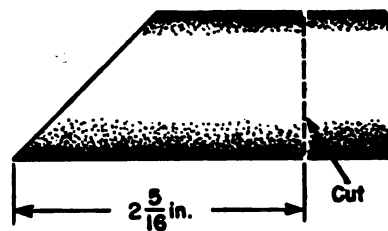
Proper positioning of the rear camshaft bearing is necessary to supply an adequate oil flow to the valve rocker shaft on 144 and 170 cu. in. engines.

If the bearing is not properly placed, the hole in the bearing will not line up with the oil passage in the block and the annular groove in the rear journal of the camshaft. Oil flow to the rocker arm shaft would then be blocked off or restricted depending on how far the camshaft bearing was out of position.

The correct location of the rear camshaft bearing is determined by measuring from the forward edge of the bearing to the surface of the cylinder block, on which the camshaft thrust plate is mounted. This distance should be $24\frac{3}{4}$ in., plus or minus $\frac{1}{64}$ in., to assure an adequate supply of oil.

RAMBLER

Cuts Oil Loss



Breather pipe is marked $2\frac{5}{16}$ in. from end, then cut off at right angle as shown

On early production 6101 and 6110 series cars, the end of the crankcase breather pipe is cut at a 45 deg. angle. During prolonged high-speed driving, some oil may be lost through the breather pipe, due to the vacuum effect caused by air passing the angled cut on the end of the pipe. The condition can be easily corrected by cutting off the end of the pipe at a right angle.

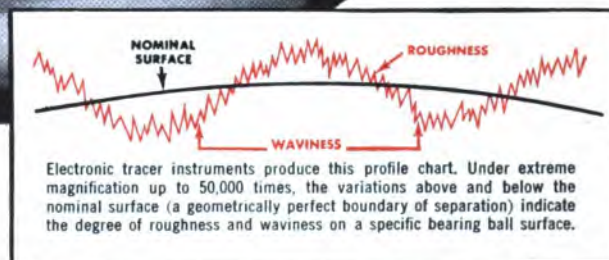
[CONTINUED ON PAGE 76]



BCA's roll smoother because bearing surfaces *are* smoother . . . controlled with superprecise electronic instruments

The smallest irregularities on bearing ball surfaces can cause vibration, internal friction, and wear. That's why BCA includes an extra-careful inspection for surface roughness and waviness as part of quality control.

These irregularities are so small that they have little or no effect on dimensional trueness as measured to the millionth of an inch—but *can* result in shortened bearing life.



Therefore, special electronic instruments have been developed to measure surface irregularities. Stylus-type tracers record them on profile curves (see illustration).

This is just one phase of quality control at BCA . . . one reason why the *complete* line is relied on for smoother, longer performance by so many automotive service technicians. Call your BCA bearing jobber for immediate delivery of the types and sizes you need.



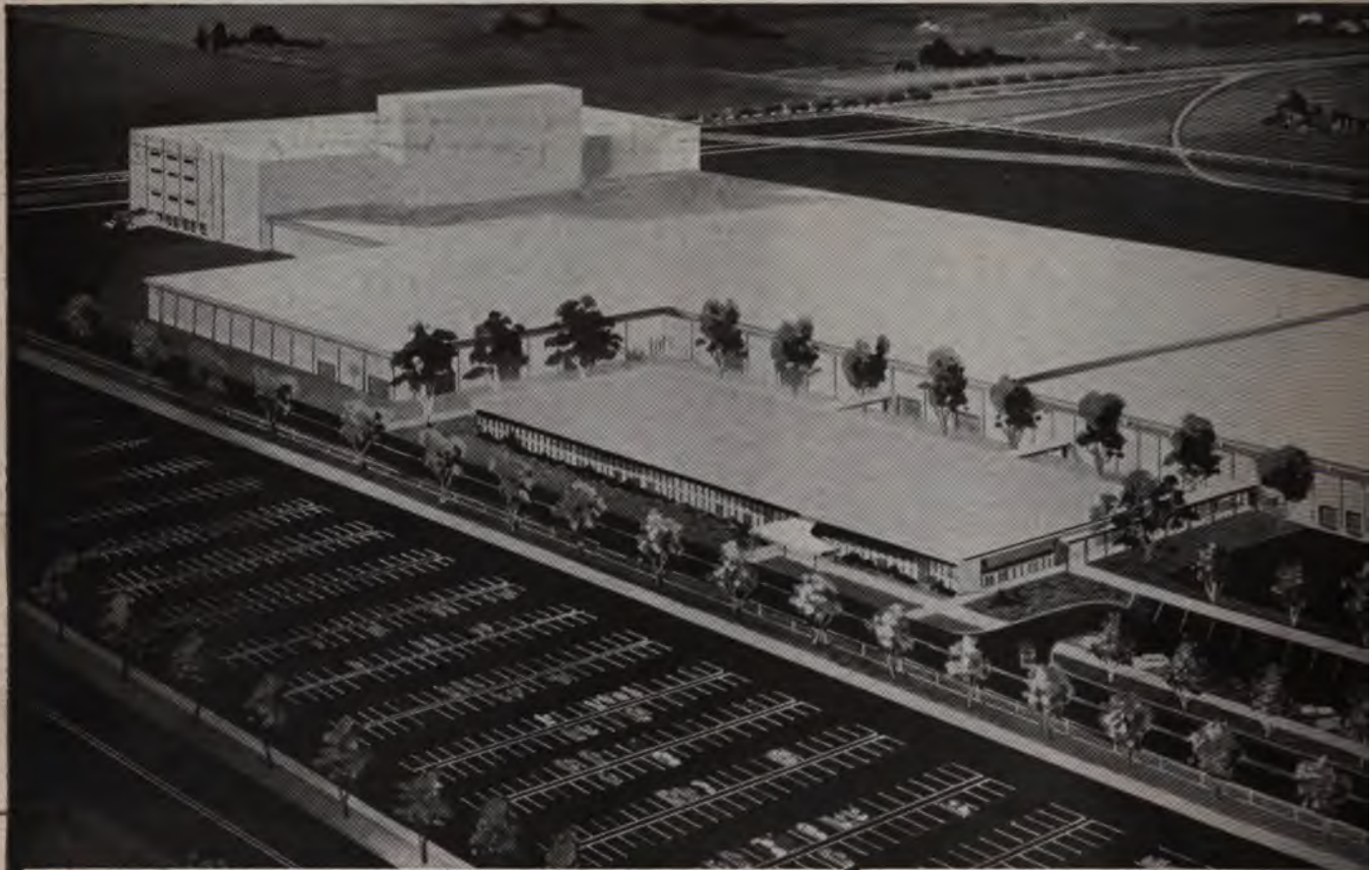
BCA BALL BEARINGS

FEDERAL-MOGUL SERVICE

Division of Federal-Mogul-Bower Bearings, Inc. • Detroit 13, Michigan

ARMSTRO

"California,



West Haven, Conn.



Des Moines, Iowa



Natchez, Miss.

NG TIRES

here we come!"



California, here we come!...with a \$25,000,000 plant in Hanford, California that will add tremendous capacity to Armstrong tire production... that will enable Armstrong to meet the constantly growing demand for tires with patented Safety-Disc grip! This plant is proof, in concrete and steel, that there's a big future for you in the tire business with Armstrong, the company that makes a profit promise to its dealers and lives up to it!

**GET THE FACTS
AND GROW WITH
ARMSTRONG**



...the Tires
with the
patented
"pay-off"
features!

THE ARMSTRONG RUBBER COMPANY, HOME OFFICE, WEST HAVEN, CONNECTICUT

MOTOR, September 1961

To make the correction, remove the breather tube and tap-pet cover assembly. Mark the pipe at a point $2\frac{5}{16}$ in. from its extreme end, then cut off this short piece at a right angle.

PONTIAC

Tracing Gear Noise

A diagnosis procedure can be used to determine whether a gear noise is coming from a front unit or a rear unit on a 61-10 Hydra-Matic. A defective planetary gear set will be noisy under drive or coast conditions, although the noise may sound differently, but will be relatively quiet when the gears are floating with neither the engine nor propeller shaft trying to drive the other.

The planet carrier on the front unit always turns at output shaft speed. The front unit does not drive the car in first speed and any noise from a front unit will vary directly with car speed and not be affected by engine load.

The rear unit is the driving unit in first speed and noise from this planetary will sound differently under drive, float and coast conditions. Low range is used on this test to obtain the coast condition.

In second speed, the front unit drives and the rear unit only turns the driven torus in the empty fluid coupling. Conditions are thus reversed and a gear noise that varies with drive, float and coast is coming from the front unit.

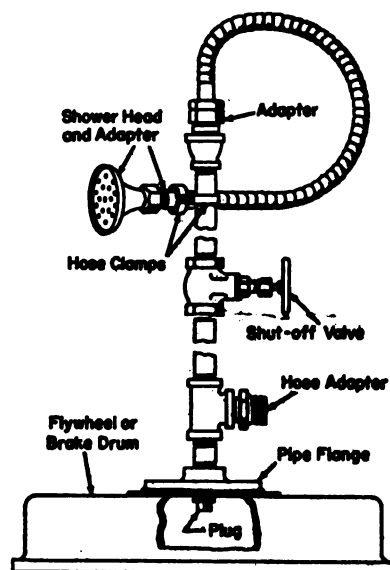
TEMPEST

Corrects Gear Squeak

A squeak at the ball pivot on the gearshift lever on a Tempest equipped with synchromesh transmission can quickly be eliminated by applying lubricant. To do this, insert a long spout oil can through the rubber boot in the passenger compartment and oil the surface of the ball pivot.

CHEVROLET

Detects Body Leaks



Shower head and flexible hose, attached to $\frac{1}{2}$ in. pipe, delivers spray for leak check

A low-cost spray stand, easily assembled from standard parts, makes the detection of water leaks a simple, one-man operation.

A discarded flywheel or brake drum acts as a base. A 2 in. nipple is threaded into a $\frac{1}{2}$ in. pipe flange which is welded to the base. A tee with a suitable adapter for connecting a hose is then threaded to the nipple.

Two 3 ft. lengths of $\frac{1}{2}$ in. pipe, joined by a shut-off valve, are connected to the top of the tee. A shower head is attached to a $\frac{3}{4}$ in. flexible gas pipe connected to the upper end of the top pipe. Two $\frac{3}{4}$ in. hose clamps are used to secure the shower head to the pipe at the required height.

After assembling, use a pressure gauge to determine the shut-off valve setting that will deliver the 20-25 lb. per sq. in. pressure required for testing. Mark this setting on the stand.

Use a flashlight to check the interior of the body while the spray is directed from the outside. In

case a long soaking is required, the repairman can do other work while the spray is operating.

PONTIAC

Affixing Lettering

The individual letters for the emblems on front fender and door moldings on 1961 Bonneville models are now available for replacement if required. New letters can be affixed to the moldings by using two adhesives contained in a package, part No. 540293.

To install the letters, first clean the bonding surfaces of the molding and the letters. Thoroughly mix two parts of amber-colored adhesive with three parts of aluminum-colored adhesive. Apply the adhesive mixture to the bonding surface of the letter and press the letter in place on the molding.

The adhesive mixture is toxic and should be kept off the skin. Allow four hours curing time at a room temperature of 72 deg., or 20 min. with 160 deg. forced air, to allow the adhesive to set.

RAMBLER

Seat-Raising Kit

Front seats on Ramblers can be raised approximately $1\frac{1}{8}$ in., to handle the special requirements of individuals, by installing spacer kits available for the purpose. One spacer kit, part No. 4478081, is required for a full-width seat. Two kits can be used to raise a pair of individual seats.

To install the kit remove the front-seat assembly from the seat adjuster slides and take the slides off. Then install the front spacers, $2\frac{1}{2}$ in. long, between the seat adjuster and the floor, with the long portion of the spacer to the front of the car.

Install the rear spacers in the same manner, but with the long portion of the spacer to the rear. Longer mounting bolts are included in the kit to compensate for thickness of the spacers.

More and more dealers are earning more and more dollars with BRIGGS

Complete selection for ride protection

SHOCK ABSORBERS

*the complete line-up
for normal driving*

STANDARD
Duty

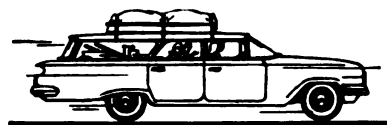
ADJUSTABLE
Duty

ADJUSTABLE BRIGADIER
Heavy Duty



BRIGGS LOAD ABSORBERS

New oil-air rear suspensions
specially built for vehicles
carrying heavy loads.
The best you can sell for:



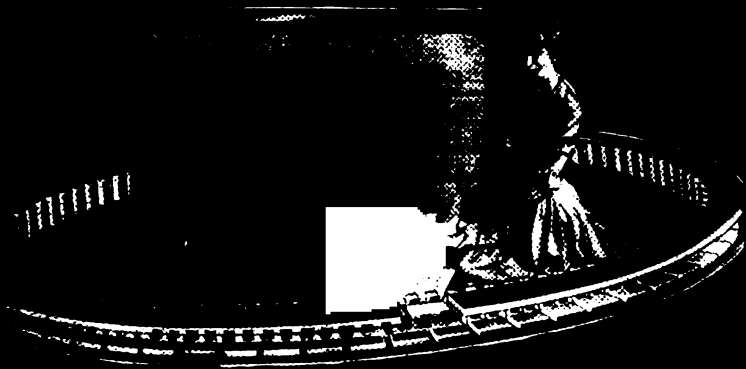
**You need never miss
a single sale with**

BRIGGS

The Briggs Shock Absorber Co.
Cleveland, Ohio



1962 compacts



winning ring" contest

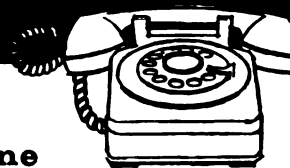
RANK THESE RAMCO FEATURES
In order of importance (1, 2, 3 etc.)

<input type="checkbox"/> Fast Installation	<input type="checkbox"/> Oil Flushing Action	<input type="checkbox"/> Conformability
<input type="checkbox"/> No Rail Malfunctions	<input type="checkbox"/> Side Sealing	<input type="checkbox"/> Less Pressure, Less Wall Drag

HOW MANY ENTRIES?
Tell us how many total entries you think will be made in the contest during the month of your entry. (Clue: Industry data shows that an average of 350,000 sets of replacement piston rings are sold each month through automotive-parts jobbers.)

RAMCO

rings you on the phone



Every "Winning Ring" winner will be notified by phone. That's your chance to make a choice of prizes in your winning category (described on entry blank).

Contest No. 1 closes Oct. 10. Contest No. 2 closes Nov. 10.
Contest No. 3 closes Dec. 10.

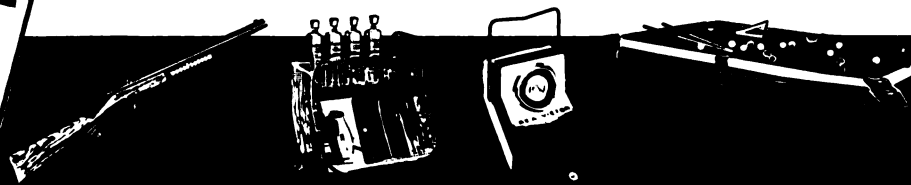
Postmarks on entries will control the particular contest in which your entries compete. Enter now and often! Call your Ramco Jobber today.

RAMCO

MODERN POWER
PISTON RINGS

RAMSEY CORPORATION • ST. LOUIS, MISSOURI

A subsidiary of Thompson Ramo Wooldridge Inc.





\$10 for Your Ideas

Have you come across any timesaving short cuts or solutions to tough repair problems? If you have, and the idea is a good one, MOTOR will pay you \$10. If your idea needs an illustration, just enclose a rough sketch in your letter. MOTOR'S artists will do a finished drawing.

When your idea applies to one particular car make, be sure to give the make and model year of the car.

Naturally ideas which have already been used or offered elsewhere cannot be considered.

So grab a pencil and jot down your idea on your shop's letterhead or billhead. Then mail it to "Fix It" Editor, MOTOR, 250 W. 55th St., N. Y. 19, N. Y.

Have Troubles? Readers Tell How To

FIX IT

Easier Lifter Removal

When removing hydraulic valve lifters from an engine block, it is often difficult to pull them out past the varnish that builds up around the lower portion of the lifter body.

We have solved this by squirting lacquer thinner around the lifter body and bore several times while taking off the necessary parts to remove the lifters. By the time these parts have been removed, the thinner will have dissolved the varnish. The lifters can then be taken out with water pump pliers or a magnet without loss of time.

—NEAL GREENAWAY
Greenaway's Service
Eastlake, Ohio

Replaces Starter Faster

When replacing starters on 1954 and later Ford and Mercury V-8's, it is usually difficult to start the top bolt into the bell housing.

For easier installation, extend the thread on a 5/16 by 1½ in. cap screw, which has the same thread size as that in the bell housing, all the way down to the bolt head. Then install the bolt from the

rear through the bell housing until the bolt head is tight against the housing. This can be done easily with a ½ in. universal socket and long extension. A thread length of about 1¼ in. will then be exposed on the front of the housing.

Now set the starter in place on the car and install and tighten the middle and bottom bolts. It is now fairly easy to put a lock washer and nut on the exposed stud, and to tighten the nut in place.

—RONALD F. WEINERT
Bill's Shell Service
Glenview, Ill.

Stops Oil Leak

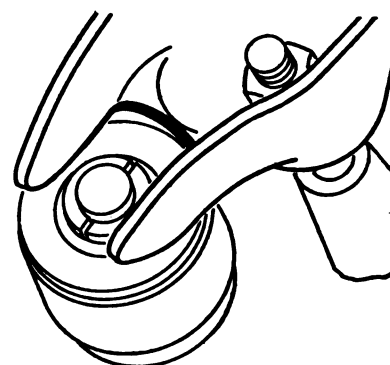
Oil seepage past the valve covers sometimes occurs on 1960-61 Corvairs. The seepage can be stopped by installing an easily made reinforcement to spread the load along the gasket area of the cover.

To make the reinforcement, lay a length of suitable strap iron on one gasket area of the cover and mark the locations of the bolt holes. Then drill holes, the same diameter as the bolt holes in the cover, at the points marked on the strap iron. Repeat for the other three gasket lengths on the cover.

Install the reinforcements with longer bolts. This method, which can be used on any car with a seepage problem, permanently stops oil loss.

—JOEL DAIZLE
Etacovitz Chevrolet
Port Kent, Me.

Easier Spring Installation

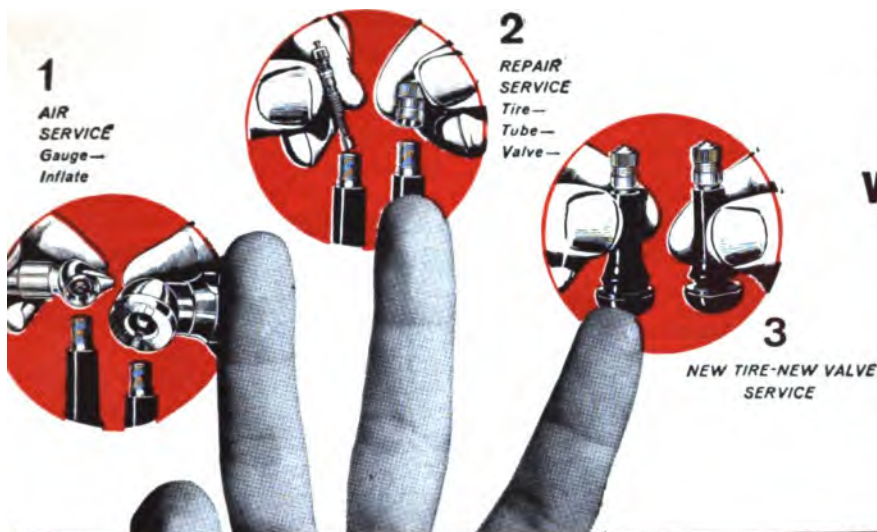


With section cut out, rocker arm compresses valve spring when the nut is tightened

Time can be saved when replacing a broken valve spring on a Chevrolet V-8 engine, without removing the cylinder head, by using a discarded rocker arm. To adapt the arm for the job, just cut out, with an acetylene torch, the part that contacts the top of the valve stem.

To install the new spring, hold the valve in its closed position by some suitable means, such as compressed air or a rod. Slip the new spring with its retainer into position over the valve spring. Re-

[CONTINUED ON PAGE 82]



Valve as new
as the tire...
vital to any fleet's
**TIRE-LIFE
EXTENSION***
plan



There are still a few dealers who do an incomplete job when they mount a tubeless tire. They leave the old, used valve in!

This is bad business. The tubeless Snap-in Valve is designed to safely last the life of one tire! Rubber in a valve loses its original elasticity reducing sealing effectiveness at the rim hole. Leaks are bound to occur before any new

tire you guarantee rolls up its full built-in mileage.

Customers learn fast. A **TIRE-LIFE EXTENSION** policy, performed with quality Schrader products pays off in steady business. So always perform all 3 **TIRE-LIFE EXTENSION** practices. But, start matching the new tires you sell with fresh new Schrader Valves right now!



The full line of Tire-Life Extension Products are covered in the big, new Schrader Catalog. If you haven't received yours, write today.

*What is the **TIRE-LIFE EXTENSION** plan? Simply applying the three handy practices shown above. By using this plan dealers benefit three ways: 1. Fewer Road Hazard Warranty adjustment claims. 2. Additional new business in tires and accessories. 3. More steady customers.

Schrader
a division of **SCOVILL**

A. SCHRADER'S SON • BROOKLYN 38, N. Y.
Division of Scovill Manufacturing Company, Inc.

FIRST NAME IN TIRE VALVES
FOR ORIGINAL EQUIPMENT AND REPLACEMENT

Made in America to American standards of quality by American craftsmen

Getting the Business



Fix It

continued from page 80

move the rocker arm by taking off the adjusting nut and install the modified arm. As the adjusting nut is tightened, the arm will compress the spring so that the locks can easily be installed.

—HEIKE WAGNER
Schoening and Huckle, Inc.
Appleton, Minn.

Eliminates Steering Squeak

A squeak in the steering column of a 1960 or 1961 Chrysler can originate in the rubber-covered terminal on the horn bushing. This bushing is located about halfway down on the inside of the column.

To eliminate the squeak, saw a 1 in. hole in the column $2\frac{1}{4}$ in. below the screw hole for the horn contact. Make sure the cancelling fingers on the turn signal are on the same side as the hole. The horn wire and terminal will then be on the side opposite the hole so there will be no possibility of sawing into the horn wire.

Now push the terminal in against the steering-gear shaft and wrap plastic tape around the shaft and terminal by turning the

steering wheel. Then apply a strip of plastic tape around the column to complete the job.

—LLOYD E. CARTWRIGHT
Harmon Motor Sales
Ironton, Ohio

Cuts Flywheel Job Time

To remove and replace a flywheel without dropping the oil pan on a 1958 Plymouth V-8 with PowerFlite, first take out the transmission. With the plate under the flywheel removed, the nuts can be taken off the studs on the flywheel with a $\frac{5}{8}$ in. open-end wrench. Then remove the flywheel.

However, there is not enough room to install the nuts on the studs by hand when the flywheel is installed. To overcome this difficulty make a tool by drilling a $\frac{3}{8}$ in. hole near one end of a 12 in. length of $\frac{1}{8}$ by 1 in. flat stock. Thread the hole with a 7/16-20 tap.

Now screw a bolt into the hole until the threads on the bolt project $\frac{3}{16}$ in. beyond the surface of the flat stock. Saw off the head end of the bolt flush with the other side of the flat stock to leave a short stud. Center-punch the stud to keep it from turning.

Now install a flywheel-retaining nut on the stud and, by holding

the opposite end of the tool, place the nut against the flywheel stud. With a $\frac{5}{8}$ in. open-end wrench, thread the nut off the stud on the tool and on the flywheel stud to install the nut.

—N. J. STOCKHAUSER
N.J. Stockhauser Auto Repairing
Barneveld, N.Y.

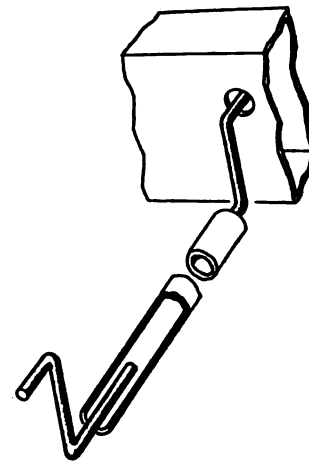
Quiets Rocker Arms

When Falcon and Comet rocker arms get noisy the trouble is usually caused by blockage of the oil supply passage. We find that, in many cases, the oil supply can be restored by slightly loosening the rear bolt that holds down the rocker arm assembly. Then start the engine.

Loosening this bolt permits oil pressure to break through the dirt and carbon that forms in this part of the oil passage. When the oil supply to the rocker arms is restored, tighten the bolt, readjust the tappets, install the cover and the job is done. This saves the time required to disassemble the rocker arm shaft completely.

—HARRY K. SCHAEFER
S and C Motors
San Francisco, Cal.

Simple Transmission Support



Pipe support for automatic transmission is held in place by offset adapters

A length of pipe, with a simple adapter inserted in each end, can be used to support an automatic transmission while the engine is out of the car for overhaul or replacement. With the transmission supported in this way, the

[CONTINUED ON PAGE 84]

.a better plan from the dealer's standpoint

says **J. E. PEAGLER,**
Dodge dealer, Phoenix, Ariz.

"While previously managing two other car agencies I decided to switch to the Commercial Credit Plan. So, when I opened my own business, naturally never considered any other plan. It's a better plan from the dealer's standpoint. Commercial Credit's methods of clearing credit minimize the dealer's potential loss in repossessions. And in our high competitive market, this is especially important. Commercial Credit's nationwide offices are important to the service of our customers, since many of them are wintering here from other states. To really cash in on financing's profit potential, we have one man, who specializes in closing time sales."

Commercial Credit serves *successful dealers*

For complete information on how our service can help promote your success, call or write the Commercial Credit Corporation office nearest you.



Fix It

continued from page 82

car can easily be moved, if necessary.

The support is made from a 1/2 in. pipe, 26 in. long. The adapters are formed from 5/16 in. cold-rolled rod by making two right-angle offsets. The bottom offsets are inserted in the pipe; the top offsets fit into the holes in the sides of the frame.

Different size adapters can quickly be made, if necessary to accommodate the different cars. On Dodge, for example, the vertical part of the adapter is 3 in. long. The top offset, which fits into the hole in the frame, is 1 1/2 in. The bottom offset, inserted into the pipe, is 6 in. long. This length permits an adjustment to be made for a number of frame widths.

—ROCCO DE SANTO
Wayne Motor Sales
Newark, N. Y.

Removes Rear Wheel Oil Seals

I have found a much faster and easier way to remove the inner oil seal from the rear-axle housing on Chrysler Corp. cars.

After the drum, backing plate and axle have been removed, re-install the axle nut on the axle. Then insert the axle in the housing until the nut is behind the seal and pull the seal out.

—STANLEY H. TSUJI
Atlas Bonded Brakes of Hawaii, Inc.
Honolulu, Hawaii

Licks Suspension Leaks

On some air-suspension cars, when a rear bellows ruptures, the car comes down suddenly and puts a strain on the dome mounting bolts which are spot-welded to the top of the dome. This can cause a leak at the bolts which is difficult to detect.

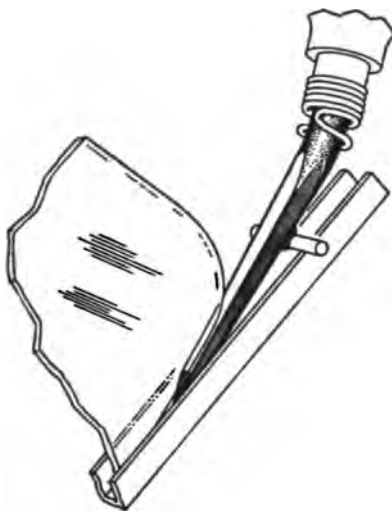
To make certain there are no leaks at these points and to prevent a comeback, install a cold patch on the inside of the dome under each bolt before installing the new bellows.

—RUDY ZELLER
Hamilton Motor Products, Ltd.
Hamilton, Ont., Canada

BODY TIPS

MOTOR will pay you \$10 for each usable timesaving short cut from the body man

Speeds Glass Removal



Wedge, operated by air tool, forces up glass by means of pivot resting on lips of channel

A wedge tool, inserted in the chuck of a power cutting tool, can be used to remove a broken glass from its channel.

A suitable wedge is easily made from a shift lever from a 1953-54 Chevrolet or a similar piece of steel. Grind one end to fit the air tool, and the sides to a width that will fit inside the glass channel. Taper the other end so it will slip under the glass. Then weld to the underside of the tool a piece of steel rod long enough to rest across the two lips of the channel. This acts as a pivot when exerting force against the glass.

To remove the glass, insert the tapered end of the tool under the glass and operate the air. The pivot permits an upward force to be exerted against the glass while the wedge is working. The tool should be used only to remove broken glass, and goggles should be used.

—LESLIE LOCKLIN
Locklin's Body Shop
Gouverneur, N. Y.

Installs T Bolts

Some cars have T bolts in the clips of the moldings around the front and rear glass. These bolts are usually hard to install after a glass change because of the sealer. A small screwdriver, with a shank slightly wider in diameter than the threads on the T bolt, can be used to install the T bolts and moldings easily.

To adapt the screwdriver, grind the blade off it and drill and tap a hole in the shank to the same thread size as that in the T bolts. Then, to install the T bolts, shove the shank of the screwdriver, from inside the car, through the hole to the outside. Now screw the screwdriver shank to the T bolt thread, pull the T bolt through, and start a nut on the T bolt. Continue around the glass until all the T bolts are inserted, then tighten them in place.

—WILLIS L. BULTER
Niggles Pontiac Co.
Mt. Vernon, Ohio

How Would YOU Fix It?

A chance to test your skill as a troubleshooter

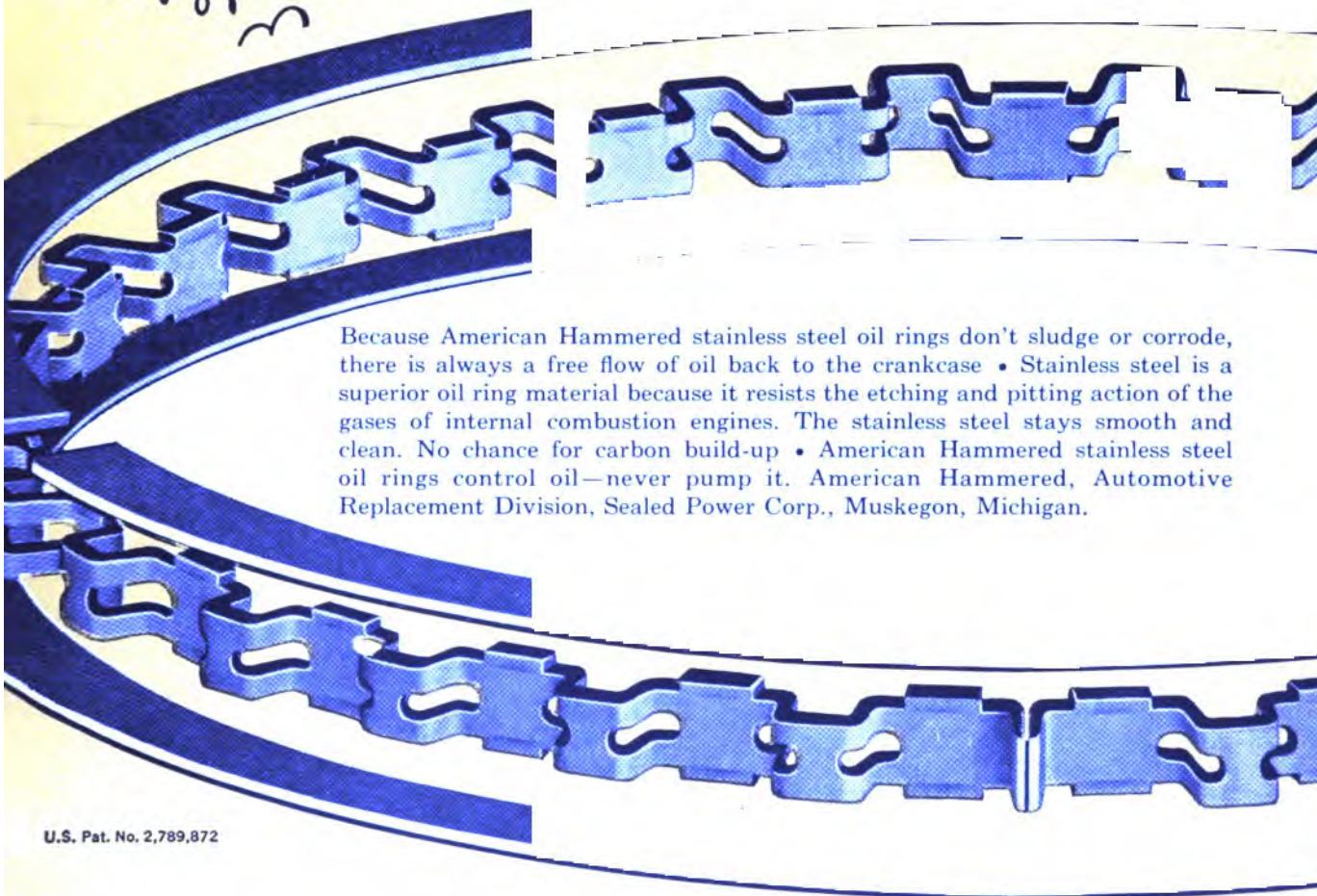
► Knowledge of what is new and different on late models can save hours in tracking down causes of trouble. For instance, on a 1961 Lincoln, the owner reported that engine performance at high speeds was poor, with power output below normal. The routine check of compression, ignition

and carburetion was made and all were found to be up to par.

The only clue the repairman had was that the idle and low-speed operation were normal. However, he also knew what was different on this model. How would you have tackled the problem? Answer is on page 218.



They don't sludge or corrode



Because American Hammered stainless steel oil rings don't sludge or corrode, there is always a free flow of oil back to the crankcase • Stainless steel is a superior oil ring material because it resists the etching and pitting action of the gases of internal combustion engines. The stainless steel stays smooth and clean. No chance for carbon build-up • American Hammered stainless steel oil rings control oil—never pump it. American Hammered, Automotive Replacement Division, Sealed Power Corp., Muskegon, Michigan.

U.S. Pat. No. 2,789,872

AMERICAN HAMMERED



stainless steel oil rings

IS IT LEGAL?

By Arthur L. Reuter of the New York Bar



Buys Dealership, Discovers Profits Misrepresented

There appeared in the Central-town Gazette the following advertisement: "Dasher dealership for sale; owner's health forces sale of highly profitable business. Last year's profit over \$20,000. Opportunity of lifetime; terms arranged."

Leverett Birdsong had some capital but was without experience in the automobile business. He was interested in the advertisement and inspected Julius Cliffee's Dasher salesroom.

Cliffee assured him there would be no trouble in getting the Dasher franchise transferred. Birdsong and Cliffee went to Metropolis City to see the zone manager of the Dasher company. The manager laid down some conditions for the franchise transfer which Birdsong felt he could easily meet and the next day Birdsong and Cliffee entered into a written contract for the sale of the dealership.

The price was \$40,000, although Cliffee's whole inventory was valued at only \$20,000. In spite of the fact that the contract did not mention it, both understood the difference in price was the value of the Dasher franchise.

A few days after the sale took place, the Dasher company advised Cliffee they would not approve the transfer of the franchise to an inexperienced person and suggested that Cliffee retain an interest in the business and continue his activity as a condition of Dasher's approval.

Cliffee told the news to Birdsong and in order to appease the factory, both made a written partnership agreement and notified Dasher. Although the partnership agreement was a sham, Dasher accepted it as genuine and considered a transfer of the franchise to the new company.

Approval came in several weeks. In the meantime, Birdsong, now in

charge of the business, found out that the previous year's profits were only half as much as Cliffee had represented them to be. However, not wanting to upset the arrangement with the factory, he kept silent.

Within a few months it was apparent to Birdsong that the business was not a money-maker with an inexperienced man at the helm. When Cliffee refused to take the business back, Birdsong sued him for damages.

"Cliffee advertised that the business had earned \$20,000 the previous year and I relied on his word only to find that last year's profits were just \$10,000," Birdsong complained.

Courses of Action

But Judge Honest said Cliffee did not have to pay and dismissed the case.

The judge said, "When Birdsong learned the truth about the company's previous profits, he had two possible courses of action: He could abide by the contract and condone the deceit or he could act with reasonable promptness to repudiate and seek to recall the transaction. By retaining and operating the business then, he made an election to abide by the contract, so far as that misrepresentation is concerned.

"As far as the fraudulently induced Dasher franchise is concerned, he has no claim either. True, that franchise is invalid and also true, part of the purchase price was to pay for that franchise. But Birdsong accepted the fraudulently induced franchise as fulfilling the consideration of the contract and he helped in the fraud by par-

ticipating in the sham partnership agreement.

"By his acts and conduct he has waived any right of damages."

Based on case reported in 330 S.W. 2d at page 42 (Ky.)

Customer Sues Dealer On Series Mix-Up

Albert Hudson maintained a used car department in connection with his Planet dealership. The secondhand vehicles were displayed on a lot adjoining the Planet salesroom.

One day Walter Wilkins visited the lot and showed interest in a 1958 Planet. He examined it, listened to the engine and drove it around the block.

"Just one thing I want to be sure of," Wilkins observed when he got back. "Is this a 'Series 30' or a 'Series 40' Planet?"

"It's a 'Series 40,'" Albert stated.

The order was written up and the sale consummated. All went well until Walter found out his Planet was a "Series 30" and not a "Series 40." The former was a lower-priced model.

Enraged, Walter sued Albert for \$400, the difference in market value between a "Series 40" and a "Series 30" Planet for the year of manufacture.

Albert defended on the ground of good faith and mistake.

"Actually," the dealer said, "I didn't know what series the car was. For all I knew it was a '40.' I thought it might have been, so I said so."

Unintended Mistake

Judge Shrewd decided that Walter was entitled to his damages.

"It is no defense to a dealer to say

[CONTINUED ON PAGE 208]



GEARED FOR HIGHER CLUTCH SALES
Accurate **ReNu**
PRODUCT PROFIT ENGINEERING PLAN

ACCURATE-ReNu "Product Engineering" gives you . . .

- Precision machined self-aligning pointed hub splines for fast, easy installation.
- Matched and mated clutch sets . . . tested together for perfect service.
- Clutches precision tooled and tested to meet highest quality standards.
- Pressure assemblies* that feature more NEW parts . . . pressure springs . . . heavy-duty rivets . . . fulcrum rings . . . retainer clips and diaphragms.
- **ALL** parts rust-proofed to stay factory bright in storage.

*Precision remanufactured to the high standard of ACCURATE-ReNu quality.

"Profit Engineering" assures complete customer satisfaction, eliminates costly comebacks. Get your share of the fast-growing clutch market with ACCURATE-ReNu's "Profit Engineering" Plan.



ACCURATE-ReNu
Clutch Division, 168 North Michigan Avenue, Chicago 1, Illinois

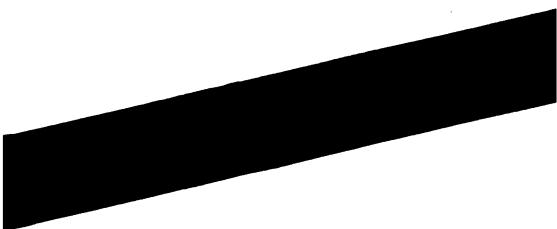
©1961, ACCURATE-ReNu Div.

MOTOR, September 1961



BENDIX[®] HYDRAULIC BRAKE PARTS

a complete line...quality controlled
from raw material to package



THEY'LL HELP MAKE YOU A BRAKE RESTORATION SPECIALIST. Now, you can answer *all* of your customers' needs for Hydraulic Brake Parts with the *complete* Bendix Automotive Service line. You get master cylinders, wheel cylinders, repair kits, stoplight switches, and hoses—and every item is of the same original equipment quality that has made Bendix *Brake Headquarters of the World*.

Join the growing list of leading brake servicemen and jobbers now stocking and installing these parts, along with other Bendix Brake Restoration material: New-Lined Brake Shoes, Heavy-Duty and Super Heavy-Duty Brake Fluid, Power Brake Installation Kits, X-Change Units, Repair Kits, and Service Parts.

Ask your Bendix Distributor how you can participate in the dynamic new Bendix Brake Restoration Program. It's easy to get the specialized training and sales aids which will qualify you as the "Brake Restoration Specialist" in your community.

BENDIX AUTOMOTIVE SERVICE
SOUTH BEND, IND.



New-Lined Brake Shoes



Hydraulic Brake Fluid



Power Brake X-Change Units



Power Brake Repair Kits
and Service Parts

★Fuel Metering ★Brake Restoration ★Power Hydraulics ★Electronic Devices ★Starter, Electrical and Ignition ★Chemical Specialties

News for Jobbers



Speakers' Bureau For IASI Show

A Speakers' Bureau now being formed by the Joint Operating Committee of next year's International Automotive Industries Show at Chicago will work throughout Wisconsin, Illinois, Michigan, Indiana and Iowa to draw attention to this automotive exhibit.

Volunteers for speaking engagements already include secretaries of the five state wholesaler associations. They will have the help of a glass-slide presentation developed by the Joint Operating Committee.

An outstanding feature of the Chicago show, to be held Feb. 28-March 3, will be "Fleet Day." This will occur on March 2.

Chairman Is Named For Pacific Show

Orval L. Butler, Stevens Corp., Portland, Ore., has been named chairman of the show committee for the Pacific Automotive Show, to be held at the Memorial Coliseum, Portland, March 21-25, 1962.

Robert E. Burns, Burns Bros. Tire and Supply Co., Portland, is chairman of the credentials committee. C. J. Gates, Wolf Supply Co., Vancouver, Wash., heads the Floor Committee.

The show will be marked by three trade designations. Groups will be formed by jobbers in the 13-state area to visit the show.

Three consecutive morning con-

vention sessions have been scheduled for the first three days.

The show will be open to all automotive trades after 6 P. M., March 23, all day and evening March 24 and all day March 25.

The first three days and the third day up till 6 P. M. will be open only to sponsoring wholesalers and exhibiting manufacturers.

ASIA Issues Extra Member Directory

In its first supplement to its membership directory, the Automotive Service Industry Assn. includes 382 names. These new members all were accepted within the last year.

New wholesaler members number 305, manufacturers 45, warehouse distributors 22 and rebuilders 10.

Besides these U. S. members, the supplement lists 285 associate Canadian members. These associates came into the group as a result of the affiliation of the Canadian Automotive Wholesalers and Manufacturers Assn. with ASIA on July 1.

Pump Rebuilders Attend Clinic

A three-day technical clinic at Evansville, Ind., last month was attended by members of the Institute of Water Pump Rebuilders Div. of the Automotive Parts Rebuilders Assn. Host was the Master Parts Div., Airtex Products.

Computer to Schedule AWDA Conference

A Remington-Rand Univac will be used this year to schedule conferences between top management personnel of distributors and manufacturers at the annual convention of the Automotive Warehouse Distributors Assn., to be held in Kansas City Oct. 30-Nov. 1.

A press conference will be held by Robert Weber, president, Oct. 1. That evening the award and presentation dinner will be held. As usual the dinner highlight will be selection of the Automotive Man of the Year.

AAR Issues Pamphlet On Commissions

An article, which is to be issued later as a pamphlet and entitled "Mr. Manufacturer, Are Commission Rates to Your Representative Adequate?" has been approved for inclusion in the Automotive Associated Representatives' membership roster for 1962.

The committee which authored the article consisted of Jack DuSan, San Francisco, Sam Dennis, Las Vegas City, and W. L. Wilson of Houston, who had the assistance of Frank Russell, 1956 AAR president.

Copies of the pamphlet will be supplied by AAR. The address is 17 West 60th Street, New York, N. Y.

Dismissal Asked

Dismissal of the Federal Trade Commission charge of making false advertising claims for its "Life Charge" battery additive has been asked by Magnaflo Co., Inc., Vandalia, Ohio.

In its answer to the complaint the company explains that the present management did not control the firm at the time the alleged false claims were made. It also

[CONTINUED ON PAGE 10]



THOMPSON PRODUCTS
VACUUM TESTED WATER PUMPS
never need greasing

Only a precision built, vacuum tested water pump can be greased for life. And that's the story of Thompson factory duplicate pumps. Skilled hands machine and hone each Thompson pump part for precision fit. Critical engineers torture test each model for the equivalent of the car's operating life. Each and every pump is vacuum tested against the most minute seal or assembly defect. *And as a final assurance of long, trouble-free life, Thompson water pumps are greased for life.*

To get the water pump you need, to be sure of reliable service and a satisfied customer—specify Thompson. There's a factory duplicate for virtually any car in use today—regardless of make, model or year.

Sold thru the world's finest jobbers



Thompson Products Replacement Division

Thompson Ramo Wooldridge Inc.

Cleveland 3, Ohio

News for Jobbers

continued from page 90

fends its use of the trademark "Lifetime Charge," denying that these words imply that the product will keep a battery charged for life.

Must Label Used Oil

Evans G. Graham, trading as Graham-Penn Oil Co., Houston, has signed a stipulation with the Federal Trade Commission to disclose that his Texas State oil is wholly or partly composed of used oil. This disclosure must be made in advertising and in a conspicuous statement on containers.

Royal Manufacturing Co., trading as Tulsa Refined Oil Co., and its officers, Tulsa, Okla., have signed a similar stipulation with regard to its Mo-Power oil.

ASIA, Boosters Affiliate

The Automotive Service Industry Assn. and Automotive Booster Clubs International, Inc., have affiliated. The joint announcement of the two groups emphasizes that the move was taken to "strengthen the industry through mutual support of nationwide programs." The autonomy of the associations is not affected.

Ford Changes Motorcraft Name to Autolite

Autolite replaces Motorcraft as the name of Ford Motor Co.'s new replacement parts marketing division. The decision to change the division title was based on greater public awareness of the Autolite name.

The Autolite Div., composed of separate sales departments, is responsible for marketing Ford products in the after-market and as original equipment to manufacturers.

AERA Accepts 17

Seventeen new members have been accepted by the Automotive Engine Rebuilders Assn. since the last report made in June.

Of this number, 11 are active

and six associate members. One of the new active members is from El Salvador, C. A., and another from Canada. Among the new associate members is an Indian firm from Ahmedabad, India.

Honored by ASIA

In recognition of "exemplary and enduring service" to the industry, the Arrow Armatures Co. has received the Distinguished Service Award of the Automotive Service Industry Assn.

Double Plant Size

Although it was dedicated only three months ago, the new Cozad, Neb., plant of the Monroe Auto Equipment Co. will be expanded to twice its original size. Additions are also being made to the Hartwell, Ga. plant. The work will cost \$1,500,000.

Buys Canadian Firm

The Regent Equipment Manufacturing Co., Ltd., of Rexdale, Ont., Canada, has been purchased



MOOG Hollow-Rubber Helper Spring

ADJUSTS AUTOMATICALLY to any load... a true progressive-type spring that insures maximum stability, safety and comfort.

WON'T BOTTOM under extreme overloads.

DOESN'T RAISE REAR END or interfere with normal ride when unloaded.

NOT AN AIR BAG, spacer or any other gadget, but a completely new concept in overload design.

RIDES QUIET... needs no lubrication.

PROVEN IN USE, thoroughly tested and backed by over 40 years of MOOG spring-suspension leadership.

LONG LIFE because it's made of natural live rubber.

QUICKLY INSTALLED with a single wrench.

COSTS LESS than ordinary overload springs... yet you get full mark-up!

JUST 12 NUMBERS cover most passenger cars, station wagons and light trucks.

MOOG MEANS MORE UNDER-CAR BUSINESS!

MOTOR, September 1961

quette Corp. The Cana- will continue to operate present name. Ralph ormer president, now be- cutive vice presidnt.

Third Expansion

ducts Manufacturing Co. n ground for the third of its Skokie, Ill., plant, ing to this location five The new addition will rgely for packaging and ng.

Jobber Doings

Motor Supply Co., Savannah parts distributor owned by Hastings Manufacturing Co., has been sold to American Parts Co., a division of Gulf and Western Industries, Inc.

Martin Wilson Bros. Pty. Ltd., Brisbane and Townsville, Australia, is celebrating 50 years as a distributor of automotive parts and equipment. Alexander Leigh Martin Wilson and Allan Martin Wil-

son, the brothers who founded the company, are still active in its affairs.

F. H. Harris is setting up his own battery and engine parts wholesaling firm at Memphis, Tenn. He resigned recently as vice president of sales, Engine Parts Div., Gould-National Batteries, Inc.

A new warehouse at Bristol, Va.-Tenn., has been opened by the Asco Warehouse Co., based at Bluefield, W. Va. Both warehouses will be managed by Frank McKenzie Management Associates.

Manufacturers Personnel

A. B. McKEE to manager, Filter Sales, Walker Marketing Corp.

PHILLIP J. COSTELLO to sales manager, Replacement Div., McQuay Norris Manufacturing Co.

R. B. MILLER to general sales manager, Chicago Pneumatic Tool Co.

JOHN BURY to assistant general sales manager, After-Market Div., Purolator Products, Inc.

JOHN R. CHURCH to director of distribution and marketing, AC Spark Plug Div.

VINCENT L. BENTON to automotive distributor sales manager, Thermoid Div., H. K. Porter Co.

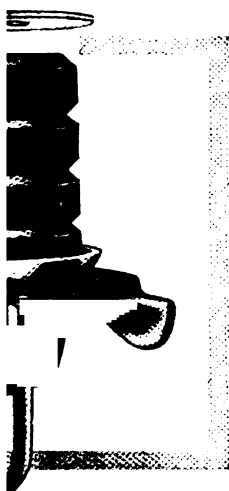
JOSEPH A. CONLON to vice president, sales, Rubber Products Div., Dayco Corp.

SAMUEL J. ROUMELES to vice president-sales, Automotive Div., Casco Products Corp.

HARRY L. SWAN to advertising manager, Autolite Div., Ford Motor Co.



s" the ride...loaded or unloaded



For the ride of your life, try a set on your own car or truck! Discover what this revolutionary new concept in overload design means to riding comfort and safety. Order a trial stock with attention-getting 3-dimensional wall and counter display from your MOOG jobber or distributor. Or write for free catalog to MOOG INDUSTRIES, Inc., 6565 Wells Ave., St. Louis 33, Mo.

SATISFACTION GUARANTEED OR YOUR MONEY BACK!



If you or your customers are not completely satisfied that this amazing new spring is everything we say it is, MOOG INDUSTRIES, Inc. will refund your purchase price.



PRECISION AT WORK...BUILDING PROFIT

A \$3,800 EXTRA PROFIT CAN BE YOURS ANNUALLY . . . doing just 2 jobs a day with the famous Alemite "On-the-Car" Wheel Balancer! In a little over a month, your new balancer pays for itself — completely. What's more, balancing service uncovers related TBA sales that give your profits an additional boost. Even with the barest minimum of 3 jobs *per*

week, a clear profit of well over \$800 is yours *ally*. And you save money, too! The Alemite Balancer is complete! No extra attachment t —and it never becomes obsolete!

Compare Alemite with all others...see how can be dollars ahead in profits . . . with equip from the leader in Automotive Service Equip

MOVES ANYWHERE—WORKS ANYWHERE! Alemite "On-the-Car" Wheel Balancer is easily operated, self-contained, precision built. Exclusive hand strobe light and pickup gives accurate meter reading indoors or outdoors—proves to customer the need for a balancing job—shows him the perfect results when the job is completed. Gives *both* up-and-down and side-to-side correction!





OWARD \$3,102 OF EXTRA PROFIT! 's profit doing only *one aligning job* a nite Cross-Sight Wheel Aligner needs no , costly pit or ramp installation. Works car is—inside or out—whether on a level



D LUBRICATION JOBS PAY OFF! alized Hand Guns help you get the *right* ie *right* spot. You do a *better* job, your more satisfied, you save time on wheel steering gear, other specialized points!



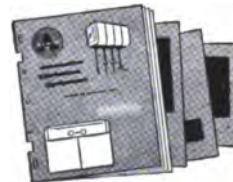
150 Diversey Parkway, Chicago 14, Illinois

Stewart-Warner Corporation of Canada, Ltd.
rio

CASH IN ON FAST LUBE SERVICE! If your lube bay is just an ordinary low-profit area, turn it into a gold mine with Alemite Strato-Line Lubrication Equipment. You save time and labor costs . . . get faster turnover . . . because no other pumps give you such instant power—with no time lag—every time the gun hits the fitting.



Send for a free, fact-filled booklet telling the whole, big-profit story of Alemite Equipment. Indicate which specific products you are most interested in.



WHEEL BALANCER ☐ Automotive Lifts ☐ Strato-Line Lubrication Equipment ☐ Wheel Aligner ☐

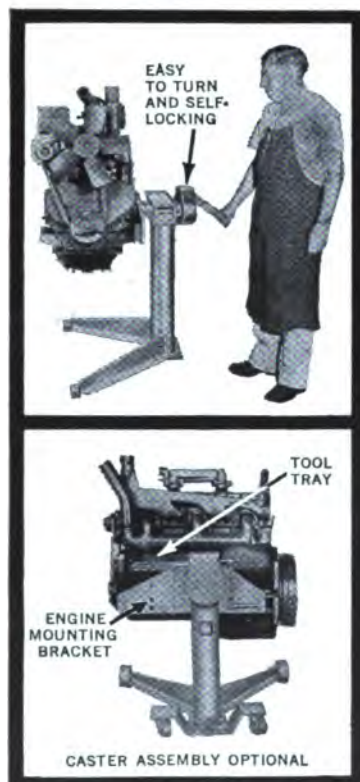
Name _____

Address _____

City _____ Zone _____ State _____

**Top, bottom, sides...
all hard to reach engine
areas worked easily
with new OTC
positioning
stand**



ENGINE WORK DONE FASTER, SAFER, EASIER, FOR BETTER OVERALL SHOP PROFITS

New OTC engine positioning stand is fast and safe to operate—allows mechanic to easily rotate engines through a full 360°.

A self-locking matched worm-and-gear set, with 8" crank, allows engine to be locked in any position. Engines are mounted on stand by means of an adapter bracket which is bolted to stand and engine.

Model No. 1700 weighs only 135 lbs., handles engines weighing up to 1200 lbs. Stand can be bolted to floor, or made mobile with optional caster assembly.

Here is a valuable piece of equipment which speeds up engine service . . . gives you added profit in time saved.

Contact your OTC distributor for more information on this and other time-saving OTC tools.



OWATONNA TOOL COMPANY

332 CEDAR STREET, OWATONNA, MINN., CABLE: TOOLCO



Things to Con

DEALER CONVENTIONS

Sept. 13	Vermont, Stowe
Oct. 22-24	New York, Kiamasha L
Oct. 22-24	New Jersey, Atlantic C
Oct. 29-31	Florida, Ft. Lauderdale
Dec. 4	Utah, Salt Lake City
Dec. 4-5	Minnesota, Minneapolis
Dec. 8-9	Montana, Billings
Feb. 3-7	National Automobile I Assn., Atlantic City

PARTS AND EQUIPMENT SHOW

Oct. 23-26	Fleet Maintenance Exp New York
Dec. 9-11	Annual Auto Trim Show Angeles
Jan. 29- Feb. 1	Automotive Accessories Manufacturers of Ameri Exposition, Chicago
Feb. 28- Mar. 3	International Automotive Industries Show, Chicag
Mar. 22-25	Pacific Automotive Show Portland, Ore.
Apr. 11-13	Canadian Automotive Service Show, Toronto
Apr. 12-14	National Truck, Trailer and Equipment Show, L Angeles

GENERAL

Sept. 14-17	Assn. of Diesel Specialish ing, Minneapolis, Minn.
Oct. 12-13	Western Engine Rebuilde Convention, Palm Spring
Oct. 29- Nov. 1	National Lubricating Gr Institute Meeting, Housh
Oct. 30- Nov. 2	Automotive Warehouse I tors Assn. Convention, K City, Mo.
Nov. 8-10	Automotive Parts Rebuil Assn. Convention, Los /
Dec. 7-14	Automotive Electric Ass Annual Meeting, Chicag
Feb. 26-27	Automotive Service lad Assn. Convention, Chicag
May 20-23	Automotive Engine Rebu Assn. Convention, Detro
June 29- July 1	IGO-California, San Di

May, 1962, Designat Car Care Month

Good Car*Keeping Month will be May, it is announced by Vernon G. Volland, executive director of the Good Car*K Institute.

The early announcement made, it is explained, to anyone, including auto wholesalers and retailers, to with the promotion next year.

Supported by the whole try, the Good Car*Keeping tute seeks to promote bot chanical and appearance nance. Information on how ticipate in Good Car*K Month may be had from the tute at 1711 Pratt Blvd., C 26, Ill.



SELL WEED before the Need

Ask your customers to buy now

You have no St. Bernard dog trained to deliver chains when cars get stuck in snow. Advise your customers to buy chains early and keep them in their cars ready for use when needed. That saves them from getting stuck. So check your stock of WEED V-BAR TIRE CHAINS, order sizes you need and recommend them every time you put in winter grade oil or anti-freeze. For use on regular or snow tires. Remember: every sale you make early means a profit you won't lose later when one storm may clean you out of chains. So, call your Weed Chain distributor now!



American Chain & Cable Company, Inc., York, Pa., Bridgeport, Conn.
In Canada • Dominion Chain Company, Ltd., Niagara Falls, Ont.
In Business for Your Safety



Dealers Rush to GW Plan

Retailers in 11 states will be using Iowa used car program by year's end



Booklet containing the names of all dealers in state who join the plan

Before the end of this month, franchised car dealers in seven states and one Canadian province will be using the Guaranteed Warranty plan for used cars, originated by the Iowa Automobile Dealers Assn., of which Alfred W. Kahl is executive vice president. Three other states will start using the plan in October, a fourth in December. Two others have already approved the plan.

This wide acceptance makes the Iowa idea one of the most successful used car warranties ever proposed. Its success is all the more remarkable because scores of car dealers are still nursing the financial bruises suffered from the service bonding schemes that a few years ago boomed straight into bankruptcy.

GW, as the Iowa plan is abbreviated, has the dual merit of pleasing both dealer and buyer, because it saves money for both. Its operation is simplicity itself.

The car dealer, on selling a vehicle he wishes to guarantee, hands the purchaser a wallet-sized certificate that entitles the latter to a 15 per cent discount on all parts and labor required by the car for a full

year, regardless of mileage. The certificate will be honored by any other subscribing dealer in the state of issue or any other where the plan is in operation. The only stipulation is that the work must be paid for in cash.

Things Excluded

Warranty does not extend to accident or misuse of the vehicle or to such routine service as lubrication, fuel, washing or polishing.

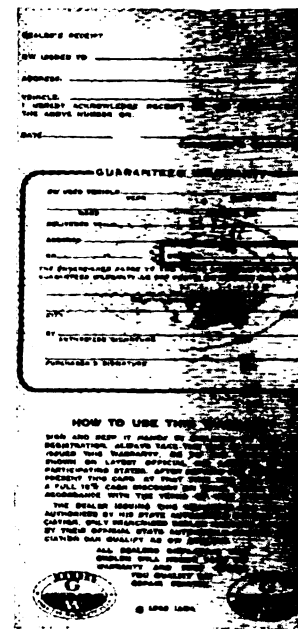
The GW plan, for reasons the sponsors cannot fully understand, has a tremendous appeal to used car buyers. Many dealers who subscribe to the plan give the buyers a choice of guarantees, usually the 30-day 50-50 warranty as against the GW. Up to 90 per cent of the buyers choose GW.

Factors that decide the buyers could be the lack of mileage limitation in the GW plan, the absence of serious grounds for wrangling, as happens often under individual warranties, and, finally, the spread of buyers in wordly wisdom. Normally intelligent people no longer expect to get much for nothing, at least when buying a used car.

Along with the certificate, the



Adhesive tag which can be attached to used car



Wallet-sized card gives buyer when he takes delivery on a used vehicle

buyer gets a booklet containing the names of all the franchised dealers in the state that subscribe to the plan. If he is going to travel, he may obtain similar lists from where GW is in effect.

From the car dealer's standpoint, the plan has any number of advantages. First, and most important, no fund is involved, with its attendant worries. Next, the plan does not really have to be sold, because the buyer is asked for no money; he gets it for nothing.

Good Sales Tool

GW is every bit as effective a sales tool as any of the unlabeled bonding schemes that became popular. If the dealer wishes, he may tag the cars in which he has confidence, or he may keep the fact to himself and toss in the plan as a decisive factor when the buyer comes over the trade-in allowance. In any case, he alone decides which cars to put under the warranty plan.

When the GW tag is placed on used cars as they are displayed, good salesmen are often able

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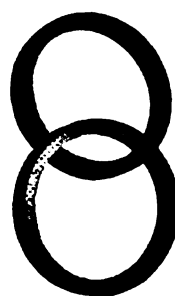


For any engine (including aluminum) Allied gives you the right insert!

● No matter what the original equipment material in valve seat inserts, Allied has a match. That includes the brand-new chrome nickel inserts, developed for aluminum engines . . . as well as chrome cobalt, chrome molybdenum and molybdenum alloy.

Equally important, Allied spells out the recommended insert for you, engine by engine, in the industry's simplest . . . yet most complete catalog. And alternate materials are shown as well.

For your additional convenience, Allied color codes each insert to indicate the material . . . as well as marking each individual insert package with the proper part number.



NEW! Allied also has a brand-new line of cast iron inserts to give you an alternative on economical replacement jobs. Like the alloy inserts, these are individually cast to produce perfect grain structure, which pays a dividend of better fit and longer, better service.

**ALLIED AUTOMOTIVE PARTS COMPANY
INDIANAPOLIS 7, INDIANA**



Prices on 1961 Passenger Cars

FACTORY DELIVERED PRICES AND BODY STYLES

Body, Make and Model	Wheelbase	Factory Delivered Price	Power Brakes	Power Steering	Cheapest Radio	Cheapest Heater	Air Conditioning	Automatic Transmission
BUICK								
Special								
Sedan 2d (Std.)	112	2300	NA	86	66	74	378	189
Sedan 4d (Std.)	112	2384	NA	86	66	74	378	189
Station Wagon (Std.)	112	2676	NA	86	66	74	378	189
Station Wagon 3 seat (Std.)	112	2732	NA	86	66	74	378	189
Sedan 4d (Deluxe)	112	2519	NA	86	66	74	378	189
Station Wagon (Deluxe)	112	2811	NA	86	66	74	378	189
Coupe 2d Skylark	112	2591	NA	86	66	74	378	189
LeSabre								
Sedan 2d	123	2993	43	108	90	99	430	Std
Sedan 4d	123	3107	43	108	90	99	430	Std
Hardtop 2d	123	3152	43	108	90	99	430	Std
Hardtop 4d	123	3228	43	108	90	99	430	Std
Convertible	123	3392	43	108	90	99	430	Std
Estate Wagon 6p	123	3623	43	108	90	99	430	Std
Estate Wagon 9p	123	3730	43	108	90	99	430	Std
Invicta								
Hardtop 2d	123	3447	43	108	90	99	430	Std
Hardtop 4d	123	3515	43	108	90	99	430	Std
Convertible	123	3620	43	108	90	99	430	Std
Electra								
Sedan 4d	126	3825	Std	Std	90	99	430	Std
Hardtop 2d	126	3818	Std	Std	90	99	430	Std
Hardtop 4d	126	3932	Std	Std	90	99	430	Std
Electra 325								
Hardtop 4d	126	4350	Std	Std	90	99	430	Std
Convertible	126	4192	Std	Std	90	99	430	Std
CADILLAC								
Series 62								
Coupe	129 1/2	4892	Std	Std	165	129	474	Std
Sedan, 6 Window	129 1/2	5080	Std	Std	165	129	474	Std
Sedan, 4 Window	129 1/2	5080	Std	Std	165	129	474	Std
Coupe De Ville	129 1/2	5252	Std	Std	165	129	474	Std
Sedan De Ville, 6 Window	129 1/2	5498	Std	Std	165	129	474	Std
Convertible	129 1/2	5455	Std	Std	165	129	474	Std
Sedan De Ville, 4 Window	129 1/2	5498	Std	Std	165	129	474	Std
Town Sedan	129 1/2	5498	Std	Std	165	129	474	Std
Eldorado Biarritz	129 1/2	6477	Std	Std	165	129	474	Std
Series 60								
Special Sedan	129 1/2	6233	Std	Std	165	129	474	Std
Series 75								
Sedan	149 3/4	9533	Std	Std	165	179	474	Std
Limousine	149 3/4	9748	Std	Std	165	179	474	Std
CHECKER								
Superba Sedan	120	2542	33	64	70	49	222 1/2	
Marathon Sedan	120	2896	33	64	70	49	222 1/2	
Superba Station Wagon	120	2896	33	64	70	49	222 1/2	
Marathon Station Wagon	120	3004	33	64	70	49	222 1/2	
CHEVROLET								
Corvair								
Club Coupe—500	108	1920	NA	NA	63	74	NA	157
Sedan 4d—500	108	1974	NA	NA	63	74	NA	157
Station Wagon 500	108	2266	NA	NA	63	74	NA	157
Club Coupe—700	108	1985	NA	NA	63	74	NA	157
Sedan 4d—700	108	2039	NA	NA	63	74	NA	157
Station Wagon 700	108	2331	NA	NA	63	74	NA	157
Club Coupe, Monza-900	108	2301	NA	NA	63	74	NA	157
Sedan 4d, Monza-900	108	2201	NA	NA	63	74	NA	157
Biscayne								
Fleetmaster 2d	119	2337	43	75	54	47	317	199 1/2
Fleetmaster 4d	119	2391	43	75	54	47	317	199 1/2
Sedan, Utility 2d	119	2282	43	75	54	47	317	199 1/2
Sedan 2d	119	2369	43	75	54	47	317	199 1/2
Sedan 4d	119	2423	43	75	54	47	317	199 1/2
Station Wagon Brookwood 6p	119	2760	43	75	54	47	317	199 1/2
Station Wagon Brookwood 9p	119	2863	43	75	54	47	317	199 1/2
Bel Air								
Sedan 2d	119	2491	43	75	54	47	317	199 1/2
Sedan 4d	119	2545	43	75	54	47	317	199 1/2
Hardtop 2d	119	2596	43	75	54	47	317	199 1/2
Hardtop 4d	119	2661	43	75	54	47	317	199 1/2
Station Wagon Parkwood 6p	119	2854	43	75	54	47	317	199 1/2
Station Wagon Kingwood 9p	119	2957	43	75	54	47	317	199 1/2
Impala								
Sedan 2d	119	2643	43	75	54	47	317	199 1/2
Sedan 4d	119	2697	43	75	54	47	317	199 1/2
Hardtop 2d	119	2704	43	75	54	47	317	199 1/2
Hardtop 4d	119	2769	43	75	54	47	317	199 1/2
Convertible	119	2954	43	75	54	47	317	199 1/2
Station Wagon	119	2996	43	75	54	47	317	199 1/2
Station Wagon Nomad 9p	119	3099	43	75	54	47	317	199 1/2
Corvette V-8								
Convertible	102	3934	NA	NA	180	102	NA	199
CHRYSLER								
Newport								
Sedan 4d	122	2964	44	108	100	102	510 1/2	227
Sedan 4d Highlander	122	3012	44	108	100	102	510 1/2	227
Hardtop 2d	122	3025	44	108	100	102	510 1/2	227
Hardtop 4d	122	3104	44	108	100	102	510 1/2	227
Hardtop 4d Highlander	122	3162	44	108	100	102	510 1/2	227
Convertible	122	3442	44	108	100	102	510 1/2	227
Town & Country Wagon 6p	122	3511	44	108	100	102	714 1/2	227
Town & Country Wagon 9p	122	3622	44	108	100	102	714 1/2	227
Windsor								
Sedan 4d	122	3218	44	108	100	102	510 1/2	227
Hardtop 2d	122	3303	44	108	100	102	510 1/2	227
Hardtop 4d	122	3367	44	108	100	102	510 1/2	227
New Yorker								
Sedan 4d	126	4123	Std	Std	100	102	510 1/2	242
Hardtop 2d	126	4175	Std	Std	100	102	510 1/2	242
Hardtop 4d	126	4261	Std	Std	100	102	510 1/2	242
Convertible	126	4502	Std	Std	100	102	510 1/2	242
Town & Country Wagon 6p	126	4754	Std	Std	100	102	714 1/2	242
Town & Country Wagon 9p	126	4871	Std	Std	100	102	714 1/2	242
300N								
Hardtop 2d	126	5411	Std	Std	100	102	510 1/2	242
Convertible	126	5811	Std	Std	100	102	510 1/2	242
COMET								
Sedan 2d	114	2011	NA	NA	59	74	NA	172
Sedan 4d	114	2066	NA	NA	59	74	NA	172
Station Wagon 2d	109 3/4	2323	NA	NA	59	74	NA	172
Station Wagon 4d	109 3/4	2366	NA	NA	59	74	NA	172
Sedan 2d S-22	114	2282	NA	NA	59	74	NA	172
DODGE								
Lancer								
Sedan 2d 170	106 1/2	2007	41	73	59	74	NA	172
Sedan 4d 170	106 1/2	2069	41	73	59	74	NA	172
Station Wagon 6p 170	106 1/2	2382	41	73	59	74	NA	172
Sedan 4d 770	106 1/2	2154	41	73	59	74	NA	172
Hardtop 2d 770	106 1/2	2181	41	73	59	74	NA	172
Station Wagon 6p 770	106 1/2	2466	41	73	59	74	NA	172
Dart*								
Sedan 2d Seneca	118	2410	43	77	59	74	446 1/2	189 1/2
Sedan 4d Seneca	118	2449	43	77	59	74	446 1/2	189 1/2
Station Wagon 6p Seneca	118	2815	43	77	59	74	446 1/2	189 1/2
Sedan 2d Pioneer	118	2530	43	77	59	74	446 1/2	189 1/2
Sedan 4d Pioneer	118	2578	43	77	59	74	446 1/2	189 1/2
Hardtop 2d Pioneer	118	2607	43	77	59	74	446 1/2	189 1/2
Station Wagon 6p Pioneer	118	2906	43	77	59	74	446 1/2	189 1/2
Station Wagon 9p Pioneer	118	3011	43	77	59	74	446 1/2	189 1/2
Sedan 4d Phoenix	118	2715	43	77	59	74	446 1/2	189 1/2
Hardtop 2d Phoenix	118	2737	43	77	59	74	446 1/2	189 1/2
Hardtop 4d Phoenix	118	2796	43	77	59	74	446 1/2	189 1/2
Convertible Phoenix	118	2988	43	77	59	74	446 1/2	189 1/2
Polara								
Sedan 4d	122		43	77	59	74	446 1/2	189 1/2
Hardtop 2d	122	2966	43	77	59	74	446 1/2	189 1/2
Hardtop 4d	122	3032	43	77	59	74	446 1/2	189 1/2
Convertible	122	3110	43	77	59	74	446 1/2	189 1/2
Station Wagon 6p	122	3252	43	77	59	74	446 1/2	189 1/2
Station Wagon 9p	122	3294	43	77	59	74	446 1/2	189 1/2
FORD								
Falcon								
Sedan 2d	109 1/2	1912	NA	NA	54	73	NA	163
Sedan 4d	109 1/2	1974	NA	NA	54	73	NA	163
Station Wagon 2d	109 1/2	2225	NA	NA	54	73	NA	163
Station Wagon 4d	109 1/2	2268	NA	NA	54	73	NA	163
Sedan 2d Futura	109 1/2	2160	NA	NA	54	73	NA	163
Fairlane V-8								
Sedan 2d	119	2377	43	82	58	47	271	190 1/2
Sedan 4d	119	2431	43	82	58	47	271	190 1/2
Fairlane 500								
Sedan 2d	119							

Make Model	Wheelbase	Factory Delivered Price	Power Brakes	Power Steering	Cheapest Radio	Cheapest Heater	Air Conditioning	Automatic Transmission	Body, Make and Model	Wheelbase	Factory Delivered Price	Power Brakes	Power Steering	Cheapest Radio	Cheapest Heater	Air Conditioning	Automatic Transmission
.....	119	2702	43	82	58	47	271	190*	Suburban V-8	122	2686	43	77	59	74	446*	189*
.....	119	2772	43	82	58	47	271	190*	De Luxe 2d	122	2753	43	77	59	74	446*	189*
p.....	119	2868	43	82	58	47	271	190*	De Luxe 4d	122	2845	43	77	59	74	446*	189*
p.....	119	2972	43	82	58	47	271	190*	Custom 4d 6p	122	2955	43	77	59	74	446*	189*
ip.....	119	3057	43	82	58	47	271	190*	Custom 4d 9p	122	2989	43	77	59	74	446*	189*
ip.....	119	3127	43	82	58	47	271	190*	Sport 4d 6p	122	3099	43	77	59	74	446*	189*
									Sport 4d 9p	122							
PONTIAC																	
.....	129	4923	Std	Std	169	136	590*	Std	Tempest								
.....	129	5109	Std	Std	169	136	590*	Std	Standard Coupe	112	2113	NA	75	54	74	319	173
.....	129	5403	Std	Std	169	136	590*	Std	Sedan 4d	112	2167	NA	75	54	74	319	173
.....	129	5617	Std	Std	169	136	590*	Std	Custom Coupe	112	2297	NA	75	54	74	319	173
.....	129	5774	Std	Std	169	136	590*	Std	Station Wagon	112	2438	NA	75	54	74	319	173
.....	129	6218	Std	Std	169	136	590*	Std	Catalina								
mpton.....	129	6423	Std	Std	169	136	590*	Std	Sedan 2d	119	2631	43	108	89	75	430	231
									Sedan 4d	119	2702	43	108	89	75	430	231
									Hardtop 2d	119	2766	43	108	89	75	430	231
									Hardtop 4d	119	2842	43	108	89	75	430	231
									Convertible	119	3078	43	108	89	75	430	231
									Station Wagon 6p	119	3099	43	108	89	75	430	231
									Station Wagon 9p	119	3207	43	108	89	75	430	231
									Ventura								
									Hardtop 2d	119	2971	43	108	89	75	430	231
									Hardtop 4d	119	3047	43	108	89	75	430	231
									Star Chief								
									Sedan 4d	123	3003	43	108	89	75	430	231
									Hardtop 4d	123	3136	43	108	89	75	430	231
									Honneville								
									Hardtop 2d	123	3255	43	108	89	75	430	231
									Hardtop 4d	123	3331	43	108	89	75	430	231
									Convertible	123	3476	43	108	89	75	430	231
									Custom Station Wagon	119	3530	43	108	89	75	430	231
RAMBLER																	
.....	120	2434	43	82	65	75	436*	190	American								
.....	120	2488	43	82	65	75	436*	190	Deluxe Sedan 2d	100	1845	40	72	54	74	359*	165
.....	120	2612	43	82	65	75	436*	190	Deluxe Sedan 4d	100	1934	40	72	54	74	359*	165
.....	120	2446	43	82	65	75	436*	190	Deluxe Station Wagon 2d	100	2080	40	72	54	74	359*	165
.....	120	2673	43	82	65	75	436*	190	Deluxe Station Wagon 4d	100	2129	40	72	54	74	359*	165
.....	120	2738	43	82	65	75	436*	190	Super Sedan 2d	100	1930	40	72	54	74	359*	165
.....	120	2486	43	82	65	75	436*	190	Super Sedan 4d	100	1979	40	72	54	74	359*	165
.....	120	2813	43	82	65	75	436*	190	Super Station Wagon 2d	100	2165	40	72	54	74	359*	165
.....	120	2958	43	82	65	75	436*	190	Super Station Wagon 4d	100	2214	40	72	54	74	359*	165
ip.....	120	3143	43	82	65	75	436*	190	Custom Sedan 2d	100	2060	40	72	54	74	359*	165
.....	120	2939	43	82	65	75	436*	190	Custom Sedan 4d	100	2109	40	72	54	74	359*	165
.....	120	3135	43	82	65	75	436*	190	Custom Station Wagon 2d	100	2295	40	72	54	74	359*	165
.....	112	2330	NA	86	66	71	378	189	Custom Station Wagon 4d	100	2444	40	72	54	74	359*	165
.....	112	2354	NA	86	66	71	378	189	Custom Convertible	100	2369	40	72	54	74	359*	165
Std.)	112	2676	NA	86	66	71	378	189	Custom 400 Sedan 4d	100	2199	40	72	54	74	359*	165
seat (Std.)	112	2732	NA	86	66	71	378	189	Custom 400 Convertible	100	2459	40	72	54	74	359*	165
.....	112	2519	NA	86	66	71	378	189	Classic 6								
Deluxe	112	2811	NA	86	66	71	378	189	Deluxe Sedan 4d	108	2008	42	74	70	76	369*	200
seat (Deluxe)	112	2867	NA	86	66	71	378	189	Super Sedan 4d	108	2268	42	74	70	76	369*	200
.....	112	2621	NA	86	66	71	378	189	Custom Sedan 4d	108	2413	42	74	70	76	369*	200
.....	123	2835	43	108	89	75	430	231	Deluxe Station Wagon 6p	106	2437	42	74	70	76	369*	200
.....	123	2930	43	108	89	75	430	231	Super Station Wagon 6p	108	2572	42	74	70	76	369*	200
.....	123	2956	43	108	89	75	430	231	Super Station Wagon 9p	108	2607	42	74	70	76	369*	200
.....	123	3034	43	108	89	75	430	231	Custom Station Wagon 6p	108	2717	42	74	70	76	369*	200
.....	123	3284	43	108	89	75	430	231	Custom Station Wagon 4d 9p	108	2842	42	74	70	76	369*	200
p.....	123	3363	43	108	89	75	430	231	Custom 400 Sedan 4d	108	2563	42	74	70	76	369*	200
p.....	123	3471	43	108	89	75	430	231	Classic V-8								
.....	123	3176	43	108	89	75	430	231	Super Sedan 4d	108	2307	42	80	70	76	369*	220
.....	123	3325	43	108	89	75	430	231	Custom Sedan 4d	108	2512	42	80	70	76	369*	220
.....	123	3402	43	108	89	75	430	231	Super Station Wagon 6p	108	2701	42	80	70	76	369*	220
.....	123	3592	43	108	89	75	430	231	Super Station Wagon 9p	108	2826	42	80	70	76	369*	220
.....	123	3665	43	108	89	75	430	231	Custom Station Wagon 6p	108	2816	42	80	70	76	369*	220
p.....	123	3773	43	108	89	75	430	231	Custom Station Wagon 9p	108	2941	42	80	70	76	369*	220
.....	126	3887	Std	Std	89	75	430	Std	Custom 400 Sedan 4d	108	2662	42	80	70	76	369*	220
.....	126	4083	Std	Std	89	75	430	Std	Ambassador V-8								
.....	126	4021	Std	Std	89	75	430	Std	Super Sedan 4d	117	2537	42	80	70	76	369*	220
.....	126	4139	Std	Std	89	75	430	Std	Super Station Wagon 6p	117	2811	42	80	70	76	369*	220
.....	126	4362	Std	Std	89	75	430	Std	Super Station Wagon 9p	117	2966	42	80	70	76	369*	220
.....	126	4582	Std	Std	89	97	430	Std	Custom Sedan 4d	117	2682	42	80	70	76	369*	220
.....									Custom Station Wagon 6p	117	2986	42	80	70	76	369*	220
.....									Custom Station Wagon 9p	117	3111	42	80	70	76	369*	220
.....									Custom 400 Sedan 4d	117	2812	42	80	70	76	369*	220
STUDEBAKER																	
.....	108 1/2	1933	41	73	59	74	NA	172	Lark Deluxe								
.....	108 1/2	1994	41	73	59	74	NA	172	Sedan 2d	108 1/2	2070	38	75	57	71	278	200
seat V100	106 1/2	2307	41	73	59	74	NA	172	Sedan 4d	108 1/2	2110	38	75	57	71	278	200
.....	106 1/2	2030	41	73	59	74	NA	172	Station Wagon 2d	113	2125	38	75	57	71	278	200
seat V200	106 1/2	2117	41	73	59	74	NA	172	Station Wagon 4d	113	2505	38	75	57	71	278	200
.....	106 1/2	2103	41	73	59	74	NA	172	Lark Royal								
.....	118	2344	43	77	59	74	446*	189*	Sedan 4d	108 1/2	2290	38	75	57	71	278	200
.....	118	2395	43	77	59	74	446*	189*	Hardtop 2d	108 1/2	2378	38	75	57	71	278	200
.....	118	2473	43	77	59	74	446*	189*	Cruiser Sedan 4d	113	2158	38	75	57	71	278	200
.....	118	2524	43	77	59	74	446*	189*	Station Wagon	113	2455	38	75	57	71	278	200
.....	118	2545	43	77	59	74	446*	189*	Convertible	108 1/2	2680	38	75	57	71	278	200
.....	118	2659	43	77	59	74	446*	189*	Hawk Spt. Coupe	120 1/2	2650	38	75	57	71	278	200
.....	118	2683	43	77	59	74	446*	189*	Thunderbird								
.....	118	2740	43	77	59	74	446*	189*	Hardtop	113	4170	Std	Std	113	83	498*	Std
.....	118	2932	43	77	59	74	446*	189*	Convertible	113	4637	Std	Std	113	83	498*	Std



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Sales Data on 1961 Passenger Cars

ENGINE, PERFORMANCE DATA..POWER KITS..AXLE RATIO..TIRE SIZES

continued from page 101

MAKE AND MODEL	Cylinder and Valve Arrangement	Bore and Stroke	Piston Displacement Cu. In.	Horsepower Testable	Maximum Brake Hp @ RPM in Hundreds	Maximum Torque Lb.-Ft. @ RPM in Hundreds	With Power Kit or Optional Engine		Compression Ratio	Rear Axle Ratio			Tire Size	Horsepower per Cu. In. Displacement	Lb. Weight per Hp	Engine Revs. per Mile			
							Max. Brake Hp @ RPM in Hundreds	Max. Torque Lb.-Ft. @ RPM in Hundreds		Standard	Optional	With 3-Speed Transmission				With Auto. Transmission	With Overdrive	3-Speed Trans.	Auto. Trans.	Overdrive Engaged
Buick Special	80	3 1/4 x 2 1/4	215	39.20	155 @ 44	220 @ 44	185 @ 48	230 @ 28	8.80	10.25	3.36	3.08	No	6.50x13	72	16.9	2876	2636	No
Buick LeSabre	80	4 1/4 x 3 3/4	364	54.45	250 @ 44	384 @ 24	300 @ 44	405 @ 28	10.25	No	No	3.07	No	7.00x15	69	16.4	No	2256	No
Buick Invieta, Electra	80	4 1/4 x 3 1/4	401	56.11	325 @ 44	445 @ 28	No	No	10.25	No	No	3.23	No	7.60x15a	81	12.8	No	2374b	No
Cadillac 60, 62	80	4 x 3 1/2	390	51.20	325 @ 48	430 @ 31	No	No	10.50	No	No	2.94	No	8.00x15	83	14.5	No	2120	No
Cadillac 75	80	4 x 3 1/2	390	51.20	325 @ 48	430 @ 31	No	No	10.50	No	No	3.36	No	8.20x15	83	16.5	No	2382	No
Checker L Head	6L	3 1/4 x 4 1/4	226	26.33	80 @ 31	180 @ 14	No	No	7.3	No	3.73	3.31	4.09	6.70x15	35	41.5	2868	2545	2008
Checker OHV	60	3 1/4 x 4 1/4	226	26.33	122 @ 40	192 @ 18	No	No	8.0	No	3.73	3.31	4.09	6.70x15	33	27.5	2868	2545	2008
Chevrolet Corvair	6HO	3 1/4 x 2 3/4	145	28.40	80 @ 44	128 @ 23	98 @ 46	132 @ 28	8.0	9.01	3.27	3.27	No	6.50x13	55	29.4	2789	2789	No
Chevrolet 6	60	3 1/4 x 3 1/2	235	30.40	135 @ 40	217 @ 22	No	No	8.25	No	3.36	3.36	3.70	7.50x14	57	26.3	2651	2651	2043
Chevrolet V-8 283 cu. in.	80	3 7/8 x 3	283	48.00	170 @ 42	275 @ 22	230 @ 48	300 @ 30	8.50	9.50	3.36	3.36	3.70	7.50x14	60	19.5	2651	2651	2043
Chevrolet V-8 348 cu. in.	80	4 1/4 x 3 1/4	348	54.50	250 @ 44	355 @ 28	335 @ 58	362 @ 36	9.50	11.00	3.36	3.08	No	7.50x14	72	14.3	2651	2430	No
Chevrolet Corvette	80	3 7/8 x 3	283	48.00	230 @ 48	300 @ 20	270 @ 60	285 @ 42	9.50	11.00	3.36	3.55	No	6.70x15	81	12.4	2812	2698	No
Chrysler Newport	80	4 1/4 x 3 3/4	361	52.00	265 @ 44	410 @ 24	No	No	9.00	No	3.23	2.93	No	8.00x14	73	14.0	2690	2227	No
Chrysler Windsor	80	4 1/4 x 3 3/4	383	52.00	305 @ 46	425 @ 28	No	No	10.00	No	3.23	2.93	No	8.00x14	79	12.2	No	2190	No
Chrysler New Yorker	80	4 1/4 x 3 3/4	413	55.90	350 @ 46	470 @ 28	No	No	10.10	No	2.93	3.23	No	8.50x14	85	11.5	No	2145	No
Chrysler 300G	80	4 1/4 x 3 3/4	413	55.90	375 @ 50	495 @ 28	400 @ 52	465 @ 36	10.10	No	3.23	3.23	No	8.00x15	90	11.3	2188	2188	No
Comet	60	3 1/2 x 2 1/2	144	29.40	85 @ 42	134 @ 20	101 @ 44	156 @ 24	8.7	No	3.50	3.50	No	6.00x13	58	28.2	3139	3139	No
Dodge Lancer	60	3 1/2 x 3 1/2	170	27.70	101 @ 44	155 @ 24	145 @ 40	215 @ 28	8.20	No	3.55	3.23	No	6.50x13	59	17.0	3039	2765	No
Dodge Dart 6	60	3 1/2 x 3 1/2	225	27.70	145 @ 40	215 @ 28	No	No	8.20	No	3.54	3.31	No	7.00x14	64	23.0	2814	2631	No
Dodge Dart V-8	80	3 1/2 x 3 1/2	318	48.90	230 @ 44	340 @ 24	260 @ 44	345 @ 28	9.00	No	3.58	3.31	No	7.50x14	72	15.2	2778	2509	No
Dodge Polara V-8	80	4 1/4 x 3 3/4	361	54.40	265 @ 44	380 @ 24	No	No	9.0	No	3.23	2.93	No	8.00x14	73	13.9	2455	2227	No
Dodge D-500 Engine	80	4 1/4 x 3 3/4	383	57.80	325 @ 46	425 @ 28	330 @ 48	460 @ 48	10.0	No	3.58	3.23	No	8.00x14	85		2721	2454	No
Ford Falcon	60	3 1/2 x 2 1/2	144	29.40	85 @ 42	134 @ 20	101 @ 44	156 @ 24	8.7	8.7	3.10	3.50	No	6.00x13	59	26.9	2790	3130	No
Ford 6	60	3 1/2 x 3 1/2	223	31.54	135 @ 40	200 @ 20	No	No	8.40	No	3.56	3.56	3.89	7.50x14	60	24.9	2791	2791	2175
Ford V-8 292 cu. in.	80	3 1/2 x 3 1/2	292	45.00	175 @ 42	279 @ 22	No	No	8.80	No	3.56	3.00	3.89	7.50x14	59	20.3	2791	2430	2175
Ford V-8 352 cu. in.	80	4 x 3 1/2	352	51.20	220 @ 44	336 @ 24	No	No	8.90	No	3.56	3.00	3.56	7.50x14	62	15.9	2798	2281	2014
Ford V-8 390 cu. in.	80	4 1/2 x 3 1/2	390	52.50	300 @ 46	427 @ 28	375 @ 60	427 @ 34	9.60	10.6	3.56	3.00	3.56	7.50x14	76	12.7	2856	2393	2063
Imperial	80	4 1/2 x 3 3/4	413	55.90	350 @ 46	470 @ 28	No	No	10.10	No	No	2.93	No	8.20x15	85	13.5	No	2063	No
Lincoln Continental	80	4 1/2 x 3 1/2	430	59.17	300 @ 41	465 @ 20	No	No	10	No	No	2.89	No	9.00x14	69	16.2	No	2147	No
Mercury 6	60	3 1/2 x 3 1/2	223	31.54	135 @ 40	200 @ 20	No	No	8.4	No	3.56	3.56	3.89	7.50x14	60	17.0	2798	2798	2139
Mercury V-8 292 cu. in.	80	3 1/2 x 3 1/2	292	45.00	175 @ 42	279 @ 22	No	No	8.8	No	3.56	3.00	3.89	7.50x14	59	12.7	2798	2358	2139
Mercury V-8 352 cu. in.	80	4 x 3 1/2	352	51.20	220 @ 44	336 @ 24	No	No	8.8	No	3.56	3.00	No	7.50x14	62	17.1	2798	2358	No
Mercury V-8 390 cu. in.	80	4 1/2 x 3 1/2	390	52.50	300 @ 46	427 @ 28	375 @ 60	427 @ 34	9.60	10.6	No	3.00	No	7.50x14	76	12.3	2798	2358	No
Oldsmobile F85	80	3 1/2 x 2 1/4	215	39.20	155 @ 48	210 @ 32	No	No	8.75	No	3.07	3.23	No	6.50x13	72	17.3	1962	2064	No
Oldsmobile 88	80	4 1/4 x 3 1/4	394	54	250 @ 42	405 @ 24	275 @ 42	415 @ 24	8.75	9.75	3.42	2.87	No	8.00x14	63	16.0	2582	2167	No
Oldsmobile Super 88, 98	80	4 1/4 x 3 1/4	394	54	325 @ 46	435 @ 28	No	No	10	10	3.42	3.08	No	8.00x14	82	12.5	2582	2325	No
Plymouth Valiant	60	3 1/2 x 3 1/4	170	27.74	101 @ 44	155 @ 24	148 @ 52	153 @ 42	8.20	No	3.55	3.23	No	6.50x13	59	14.9	3039	3039	No
Plymouth 6	60	3 1/2 x 3 1/2	225	27.7	145 @ 40	215 @ 28	No	No	8.50	No	3.54	3.31	No	7.00x14	57	24.8	2744	2565	No
Plymouth V-8, 318 cu. in.	80	3 1/2 x 3 1/4	318	48.90	230 @ 44	340 @ 24	260 @ 44	345 @ 28	9.00	No	3.54	3.31	No	7.50x14	72	14.9	2742	2565	No
Plymouth V-8, 361 cu. in.	80	4 1/4 x 3 1/4	361	54.30	305 @ 48	395 @ 30	310 @ 48	435 @ 28	10.00	No	3.31	2.93	No	7.50x14	84	11.2	2565	2271	No
Pontiac Tempest	40	4 1/2 x 3 3/4	194.5	26.40	110 @ 38	190 @ 20	155 @ 46	220 @ 24	8.6	8.8	3.55	3.08	No	6.00x15	50	25.4	2822	2758	No
Pontiac Cat., Ven., S. Chief	80	4 1/2 x 3 3/4	389	52.80	215 @ 36	390 @ 20	348 @ 18	430 @ 32	8.60	10.25	3.23	3.08	No	8.00x14	55	18.6	2419	2322	No
Pontiac Bonneville	80	4 1/2 x 3 3/4	389	52.80	235 @ 36	402 @ 20	348 @ 48	430 @ 32	8.60	10.25	3.23	3.08	No	8.00x14	60	14.4	2306	2322	No
Rambler American	6L	3 1/4 x 4 1/4	195.6	23.44	90 @ 38	160 @ 16	125 @ 42	180 @ 16	8.00	No	3.31	3.31	3.78	6.00x15	46	28	2615	2615	2084
Rambler Amer. Custom	60	3 1/4 x 4 1/4	195.6	23.44	125 @ 42	180 @ 16	No	No	8.70	No	2.87	2.87	3.31	6.00x15	63	20.1	2661	2307	1862
Rambler Classic 6	60	3 1/4 x 4 1/4	195.6	23.44	127 @ 42	180 @ 16	138 @ 45	185 @ 18	8.70	No	3.78	3.31	4.11	6.50x15	65	23.2	2892	2532	2196
Rambler Classic V-8	80	3 1/2 x 3 1/4	250	39.20	200 @ 49	245 @ 25	215 @ 49	260 @ 25	8.70	No	4.10	3.15	4.10	7.50x14	80	16.4	3190	2450	2235
Rambler Amb. V-8	80	4 x 3 1/4	327	51.20	250 @ 47	340 @ 26	270 @ 47	360 @ 26	8.70	No	3.54	2.87	3.54	8.00x14	76	13.7	2708	2409	1934
Studebaker Lark 6	60	3 x 4	169.6	21.60	112 @ 45	154 @ 20	No	No	8.50	No	3.73	3.73	4.10	6.00x15	66	16.0	2965	2965	3239
Studebaker Lark V-8	80	3 1/2 x 3 1/4	259.2	40.60	180 @ 45	260 @ 28	195 @ 45	265 @ 30	8.80	No	3.07	3.07	3.54	6.50x15	69	11.3	2549	2364	2549
Studebaker Hawk V-8	80	3 1/2 x 3 3/8	289	40.60	210 @ 45	300 @ 28	225 @ 45	305 @ 30	8.80	No	3.31	3.07	3.54	6.70x15	72	11.0	2492	2312	2666
Thunderbird	80	4 1/2 x 3 1/2	390	52.50	300 @ 46	427 @ 28	No	No	9.6	No	No	2.91	No	8.00x14	76	12.9	No	2261	No

a—Invieta figure given, Electra is 8.00x15

b—Invieta figure given, Electra is 2335

h—Suburbans 7.50x14, 9-passenger Suburban, 8.00x14

O—Overhead valve

*—Engine option

H—Horizontal opposed

—8.50x14 on Newport Station Wagon, 9.00x14 on New Yorker Station Wagon

t—Monza with Powerglide

—Station Wagons 6.50x13

—Oldsmobile 98, 3-speed transmission not available, tire size—8.50x14, axle ratio with Hydra-Matic—3.23, lb. Wt. per Hp—12.9, Engine Rev. per M 2374

†—Station Wagons have 8.00x14 tires

□—PowerFlite ratio given, Torque Flite is 2.93

—Invieta figure given, Electra is 12.3

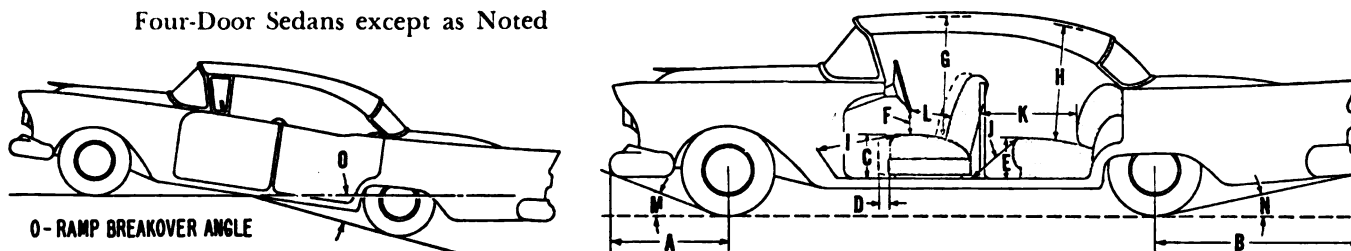
—Series 60 figure given, Series 62 is 14.3

[MORE SPECIFICATIONS, PAGE 115]

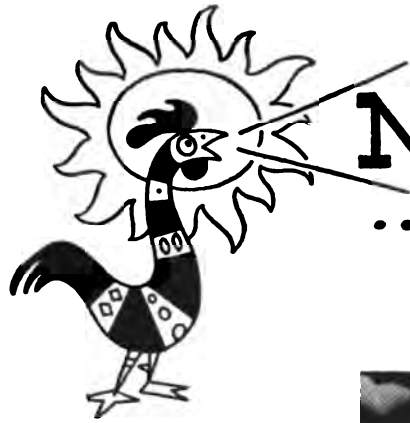
Important Dimensions...Body...Chassis

continued from page 104

Four-Door Sedans except as Noted



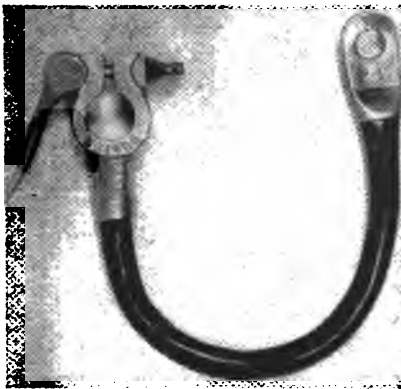
MAKE AND MODEL	EXTERIOR DIMENSIONS										INTERIOR DIMENSIONS														
	Shipping Weight	Wheelbase	Over-all Length Incl. Bumper	Width	Height	TREAD		Front Overhang	Rear Overhang	Approach Angle (Deg.)	Departure Angle (Deg.)	Ramp Angle (Deg.)	Front Seat Hip Room	Rear Seat Hip Room	Height of Front Seat Cushion	Front Seat Horizontal Adjustment	Rear Seat Cushion	Distance Steering Wheel to Cushion	Head Room at Front Seat	Head Room at Rear Seat	Leg Room in Front Seat	Leg Room in Rear Seat	Back of Front Seat to Front of Rear Seat	Steering Wheel to Front of Seat Back	Front of Seat Back
						Front	Rear																		
Buick Special	2632	112	188½	71½	52½	56	58	31	45½	26½	16½	12½	58½	58½	11½	4½	12½	4½	33½	33½	44½	37½	26½	13½	13½
Buick LeSabre	4102	123	213½	78	56½	62	61	32½	57½	27½	13½	11½	63½	63½	11	4½	13½	5½	34½	34½	44½	41½	28½	14½	14½
Buick Invicta	4179	123	213½	78	56½	62	61	32½	57½	27½	13½	11½	63½	63½	11	4½	13½	5½	34½	34½	44½	41½	28½	14½	14½
Buick Electra	4208	126	213½	78	57½	62	61	32½	60½	28½	12½	11½	63½	63½	11	4½	13½	4½	34½	34½	44½	41	31	14½	14½
Cadillac 62	4660	129½	222	79½	56½	61	61	34½	60½	21½	12½	12½	63½	63½	12½	4½	14½	4½	34½	34½	46	44½	31½	15½	15½
Cadillac 60	4715	129½	222	79½	56½	61	61	34½	60½	21½	12½	12½	63½	63½	12½	4½	14½	4½	34½	34½	46	44½	30½	15½	15½
Cadillac 75	5390	149½	242½	80½	59½	61	61	34½	60½	23½	13½	12½	65½	60½	10½	4½	13½	5½	36½	34½	44½	NS	26½	11½	11½
Checker Superba	3320	120	202	76	62½	60	62½	32½	46½	18	16	14	62½	52½	13	5	13	6½	34½	34½	42	48	42½	15	15
Chevrolet Corvair	2355	108	180	67	51½	54	54	30½	41½	27	16	16	58½	57	10	4	11½	15	33½	33½	44	36½	25½	15	15
Chevrolet Biscayne, Bel Air, Impala	3505	119	200½	78½	55½	60½	59½	32½	57½	27	13	11	63½	63½	11	4½	14	5	34½	34	45	42	29	11	11
Chevrolet Corvette	2905	102	177½	70½	52½	57	59	33	42½	21	21	7	59½	No	7½	4½	No	5½	37½	No	46½	No	No	16½	16½
Chrysler Newport	3710	122	215½	79½	55	61	59½	34½	58½	15½	10½	12½	63½	62½	11½	4½	13	5½	37½	38½	45½	42½	29½	15½	15½
Chrysler Windsor	3730	122	215½	79½	55	61	59½	34½	58½	16½	10½	12½	63½	62½	11½	4½	13	5½	37½	38½	45½	42½	29½	15½	15½
Chrysler New Yorker	4055	126	219½	79½	55½	61½	60	34½	59½	16	11	10½	63½	62½	11½	4½	13	5½	37½	38½	45½	42½	29½	15½	15½
Chrysler 300G	4260	126	219½	79½	55½	61½	60	34½	59	16½	10½	10½	63½	62½	11½	4½	13	5½	37½	38½	45½	35½	28½	16½	16½
Comet	2411	114	194½	70½	54½	55	54½	30½	50	23½	12½	12½	57	57	11½	4	14½	5½	33½	32½	43½	39½	27½	13	13
Dodge Lancer	2595	106½	188½	72½	53½	56	55½	32½	49½	23½	12½	11½	56½	56½	11½	4½	13½	6½	33½	33½	42½	38½	27½	15½	15½
Dodge Dart	3515	118	203½	78	54½	61½	60½	33½	58	16½	9½	12½	63½	62½	11½	4½	13½	6	33½	33½	45½	42½	28½	15½	15½
Dodge Polara	3700	122	212½	78	54½	61½	60½	33½	57	17½	10½	12½	63½	62½	11½	4½	13½	6	33½	33½	45½	42½	30½	16½	16½
Ford Falcon	2289	109½	181½	70½	54½	55	54½	29½	42½	25½	15½	13½	57½	57	11½	4	14½	5½	33½	32½	43½	39½	27½	13	13
Ford Fairlane, Fairlane 500, Galaxie	3683	119	209½	79½	55	61	60	32½	58½	21½	11½	11½	62½	63½	10½	5½	13½	5½	33½	33½	43½	41½	31½	12½	12½
Imperial	4740	129	227½	81½	56½	61½	62½	39½	57½	15½	10½	13½	61	60½	11	5	12½	6½	31½	38½	46½	42½	31½	18½	18½
Lincoln Continental	4887	123	212½	78½	53½	62½	61	36½	52½	21½	12½	11½	59½	60½	10½	5½	13½	5½	33½	33½	44½	40½	28½	14½	14½
Mercury	3714	120	214½	79½	55	61	60	35½	60½	19½	11	11½	62½	63½	9½	5½	13½	5½	33½	33½	43½	41½	31½	12½	12½
Oldsmobile F85	2695	112	188½	71½	52½	56	56	30½	45½	27½	17½	16½	58½	58	12½	3½	11½	5½	34	33½	44	37½	26½	13½	13½
Oldsmobile 88, Super 88	4024	123	212	77½	55½	61	61	32½	56½	29½	12½	11½	63½	63½	12	4½	13½	4½	34½	34½	44½	41½	28½	13½	13½
Oldsmobile 98	4208	126	218	77½	56½	61	61	32½	59½	29	11½	11½	63½	63½	12½	4½	13½	4½	35½	34½	44½	44½	32½	13½	13½
Plymouth Valiant	2590	106½	183½	70½	53½	56	55½	29½	48	21½	13½	11½	56½	56½	11½	4½	13½	6½	33½	33½	42½	39½	27½	15½	15½
Plymouth	3465	118	209½	80	54½	60½	59½	36½	55½	17½	11½	12½	63½	62½	11½	4½	13½	6	33½	33½	45½	42½	28½	15½	15½
Pontiac Tempest	2800	112	183½	72½	53½	56½	56½	31½	45½	26	17	12	58½	58½	10½	4½	12½	4½	34	33½	44½	37½	26½	15½	15½
Pontiac Catalina, Ventura	3725	119	210	78½	55½	62½	62½	34	57	23½	13½	13½	63½	63½	12	4½	13½	5½	34½	34½	45½	40½	29½	15	15
Pontiac Star Chief	3870	123	217	78½	55½	62½	62½	34	60	23½	12½	13½	63½	63½	12	4½	13½	6	34½	34	45½	40½	27½	15½	15½
Pontiac Bonneville	3895	123	217	78½	55½	62½	62½	34	60	23½	12½	13½	63½	63	12	4½	13½	6	34½	34½	44½	40½	27½	15½	15½
Rambler American	2520	100	173½	70	56½	55	28½	44½	21½	14½	14½	14½	58	45½	9½	6	12	5½	35	33	44	37½	25½	14½	14½
Rambler Classic 6	2050	108	181½	72½	57½	57½	32½	49½	21½	13½	14½	14½	59½	60½	10½	6	14½	5½	36	34½	43	40	26½	14½	14½
Rambler Classic V-8	3290	108	181½	72½	57½	58½	32½	49½	21½	13½	14½	14½	59½	60½	10½	6	14½	5½	36	34½	43	40	26½	14½	14½
Rambler Ambassador V-8	3430	117	199	73½	56½	57½	32½	49½	21½	13½	14½	14½	59½	60½	10½	6	14½	5½	36	34½	43	40	26½	14½	14½
Studebaker Lark	2665	108½	175	71½	56½	57½	56½	26½	40½	28½	17½	12½	59½	59	12	5½	11½	6½	35½	34½	43½	40	29	13½	13½
Studebaker Hawk	3207	120½	204	71½	55½	57½	56½	34½	48½	20	17	11	59½	58	10½	5½	9½	5½	34½	33½	44	37	27½	13½	13½
Thunderbird	3887	113	205	75½	52½	61	60	38½	53½	19	12½	11½	59	52½	12½	70	12½	6½	34½	33½	44½	37½	25½	14½	14½



New Products

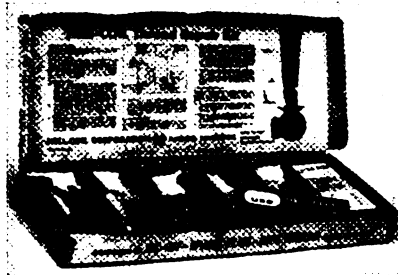
...TO USE ... TO SELL

Cribbs Battery Terminal



Cribbs Co., 16626 Roscoe Blvd., Van Nuys, Cal., has introduced a new battery terminal that is said to snap on or off without use of tools. According to the maker, the unit provides positive connection, is plated for longer life and can be cleaned quickly.

Heli-Coil Repair Kit



Heli-Coil Corp., Danbury, Conn., offers a new kit for the repair of stripped, worn or damaged threads in Lawn-Boy products. Kit contains an assortment of stainless steel wire inserts in various thread sizes, necessary taps and inserting tools, as well as complete instructions. Kit can also be used for thread repair on other mowers, as well as automobiles, machine tools, chain saws, and other products.

MoPar Tissue Master



The MoPar Tissue Master, which dispenses tissues and also serves as receptacle for waste paper and litter, is offered by MoPar Parts and Accessories, Chrysler Motors Corp., Detroit 31, Mich. The lid is easily opened, revealing a hidden compartment for waste and litter or for storing such items as maps, pencils, coins, cigarettes, etc. Unit is made of white plastic.

3M Filter Mask



Minnesota Mining and Manufacturing Co., 900 Bush Ave., St. Paul 6, Minn., offers a lightweight filter mask designed for filtration of non-toxic dust and sprays. The mask is said to conform to any face and allows easy breathing, unimpeded conversation and unobstruct-

ed vision. An elastic headband seals the single-unit mask around the edges and a flexible metal nose-piece adjusts to finger-tip pressure.

Trostel Oil Seal



Red-Lip oil seal has been introduced by Albert Trostel Packings, Ltd., Lake Geneva, Wis. Colored red for identification, the seal is said to be the product of a special leather tannage and of a new, synthetic impregnation formula. According to the maker, the seal does not build up heat while in use, is friction-free and tight-sealing at below zero temperatures. New seals are offered in a complete range of types and sizes.

Bendix Brake Parts



A new service line of hydraulic brake parts, including hydraulic master and wheel cylinders, repair kits, stoplight switches and hoses, is offered by Bendix Automotive Service, Bendix Corp., South Bend, Ind.

[CONTINUED ON PAGE 118]

For Extra Headlamp Profits:

Check for Broken Lenses, Burnouts



While cleaning headlights is a perfect time to check for cracked and broken lenses. A quick look can add extra headlamp profit to your regular gas and oil sales. At the same time have the driver switch on his lights to spot burnouts. Always replace burnouts in pairs, because when one headlamp goes, chances are its mate has just about had it, too.

Insure these extra profits with Tung-Sol Dual Vision-Aid Headlamps—initial equipment choice of leading car manufacturers. Dual Vision-Aid Headlamps provide

the kind of illumination your customers should sharper, more accurate low beams directed to right side of the road, away from oncoming traffic. distance-devouring high beams that provide visibility and safety on the open highway . . . a reliable service.

Insure your service work and your profits. Tung-Sol is your supplier to make 'em Dual Vision-Aid Headlamps. Tung-Sol Electric Inc., Newark 4, New Jersey.



TUNG-SOL®

The only complete automotive lighting line

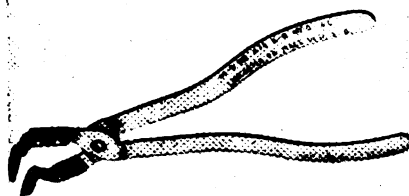
HEADLAMPS • MINIATURE LAMPS • FLASH

MOTOR, September 1961



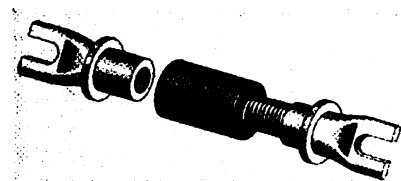
continued from page 116

K-D Gasket Pliers



A new set of crankcase gasket pliers designed for work on slant 6 cyl. engines—Plymouth, Valiant, Dart and Lancer—is available from K-D Manufacturing Co., Lancaster, Pa. Called the K-D 475 gasket plier, the tool is 7 $\frac{1}{8}$ in. long and has knurled jaws.

Champ-Items Shock Parts



A new type shock absorber cross-pin mounting and bushing, No. 616, is available from Champ-Items, Inc., 6191 Maple Ave., St. Louis 30, Mo. The unit is said to allow replacement of worn or broken cross-pins on shock absorbers with normally non-replaceable mountings. The maker reports the unit may be installed on front or rear shocks and does not require removal of shock from the car.

Portable Polisher



A polisher kit, known as Model K-1560M, has been introduced by Portable Electric Tools, Inc., 1200 E. State St., Geneva, Ill. According

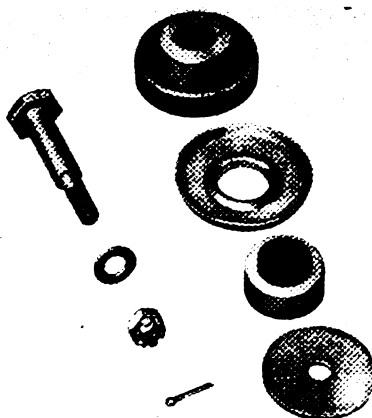
to the maker, the new product has been designed for fast polishing of cars without burning lacquer, enamel or acrylic finishes. A 3 amp. motor provides the power. Operating speed is 1,200 rpm under load. Included in the kit are a 6 $\frac{1}{2}$ in. diameter lamb's-wool polishing bonnet, a 5 $\frac{1}{2}$ in. diameter flexible rubber pad, and an auxiliary handle.

Du Pont Engine Cleaner



A new engine cleaner and degreaser has been added to the No. "7" line by E. I. du Pont de Nemours and Co., Wilmington, Del. The product is an emulsifiable concentrate that is normally diluted before use. It is offered along with a new tool known as the hydro-gun. According to the maker, the venturi connection on the gun enables quick and thorough application of the diluted cleaner. In addition to 1 gal. and 5 gal. cans, 16 oz. aerosol containers are offered for resale to consumers.

Doan Engine Mounts



Doan Manufacturing Div. of Anchor Industries, Inc., 1725 London Rd., Cleveland 12, Ohio, is offering engine mounts along with matched sets of fittings. According to the maker, everything that is required to install engine mounts is packed in one box.

Raybestos Hydraulic Parts



A line of hydraulic brake parts is offered by Raybestos Div. of Raybestos-Manhattan, Inc., Bridgeport 2, Conn. Included are wheel cylinder cups, brake cables, brake fluid, brake hose line, master cylinder assemblies, master cylinder repair kits, brake bleeders, stoplight switches, brake service tools and wheel cylinder repair kits.

Weatherhead Kit



Weatherhead Co., 300 E. 131 St., Cleveland 8, Ohio, offers a heavy-duty power steering kit containing necessary hose and fittings for nine complete pressure-line or return-line replacements to service trucks, buses and tractors. The kit, known as PST-5, comes with four special fittings said to fit 90 per cent of power steering hook-ups.

Curtis Two-Post Lift

A two-post shop lift, known as the MC-60, is available from Curtis Manufacturing Co., 1905 Kienlen Ave., St. Louis 33, Mo. It is fully hydraulic with lifting capacity of 11,000 lb. Front and rear saddles on posts are adjustable from 24 $\frac{3}{8}$ to 51 $\frac{3}{8}$ in. and 22 $\frac{1}{4}$ to 38 in. respectively to provide axle contacts on most models of cars and trucks, American and foreign.

[CONTINUED ON PAGE 120]

Announcing...

AMERICA'S MOST ADVANCED OIL SEAL

TROSTEL RED LIP



**cuts friction... seals hot or cold
prevents leakage... lasts longer**

Never before has there been a seal like this... so trouble-free that once installed your job is **done!** See your jobber.

ALBERT TROSTEL PACKINGS, LTD.



LAKE GENEVA, WISCONSIN • A complete producing organization for OIL-SEALS, O-RINGS, PACKINGS

MOTOR, September 1961

Grey-Rock Kit



A line of master cylinder assemblies and repair kits is offered by Grey-Rock Div., Raybestos-Manhattan, Inc., Manheim, Pa. Brake parts are available for all U.S. cars and most foreign. Repair kit includes piston with secondary cup, primary cup, fiber installation ring, valve seat, valve, spring, lock wire, gasket and boot.

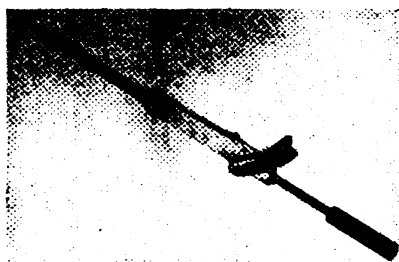
Lectrolite Wrench Sets



Two alloy steel combination wrench sets, each in a new gift pack, have been introduced as part of S-K Lectrolite Christmas promotion by Lectrolite Corp., Defiance, Ohio. Sets available in the gold-and-red vinyl pack are the seven-piece set No. X-1707 and the nine-piece set No. X-1709.

Sturtevant Torque Wrench

A torque wrench, Model S600, for direct reading up to 600 lb.-ft. has been introduced by P. A. Sturtevant Co., Addison, Ill. According to the maker, the operator need ap-



ply only 120 lb. of pressure to obtain 600 lb.-ft. of torque and 60 lb. of pressure to exert 300 lb.-ft. The tool has a sensory signaling device that sounds a tone and imparts an impulse to the operator's hand when the desired pre-set torque is reached. Unit comes with a standard $\frac{3}{4}$ in. male drive square, weighs less than 17 lb. and has a quick-disconnect center section.

Hastings Knurling Kit



A knurling kit for resizing the inside diameter of valve guides has been announced by Hastings Manufacturing Co., Hastings, Mich. According to the maker, the knurler cuts resizing costs to a minimum and eliminates removal of valve guides from the cylinder head. The kit consists of an assortment of resizing arbors and reamers for handling most makes and sizes of valve guides with wear up to .010 in. Also included are speed reducer, cleaning brushes and cutting oil.

Magnus Cleaner

A hot tank cleaner, Magnus 614, for automobile radiators, engine blocks and other heavy-duty cleaning and paint-stripping operations is available from Magnus Chemical Co., Garwood, N.J. According to the maker, the cleaner strips both old and new types of paint from radiator cores, leaving cores ready for soldering. It is said to remove light rust and even some hard water scale.

Wagner Brake Cables



Parts and Accessories Div. of Wagner Electric Corp., 6400 Plymouth Ave., St. Louis 14, Mo., has added parking brake cables to its line of Wagner Lockheed brake service products. Line includes cables for passenger cars and trucks. According to the maker, cables have polyethylene enclosure housings for rattle-proof operation and the copper-plated, rustproof fittings are prelubricated for long life.

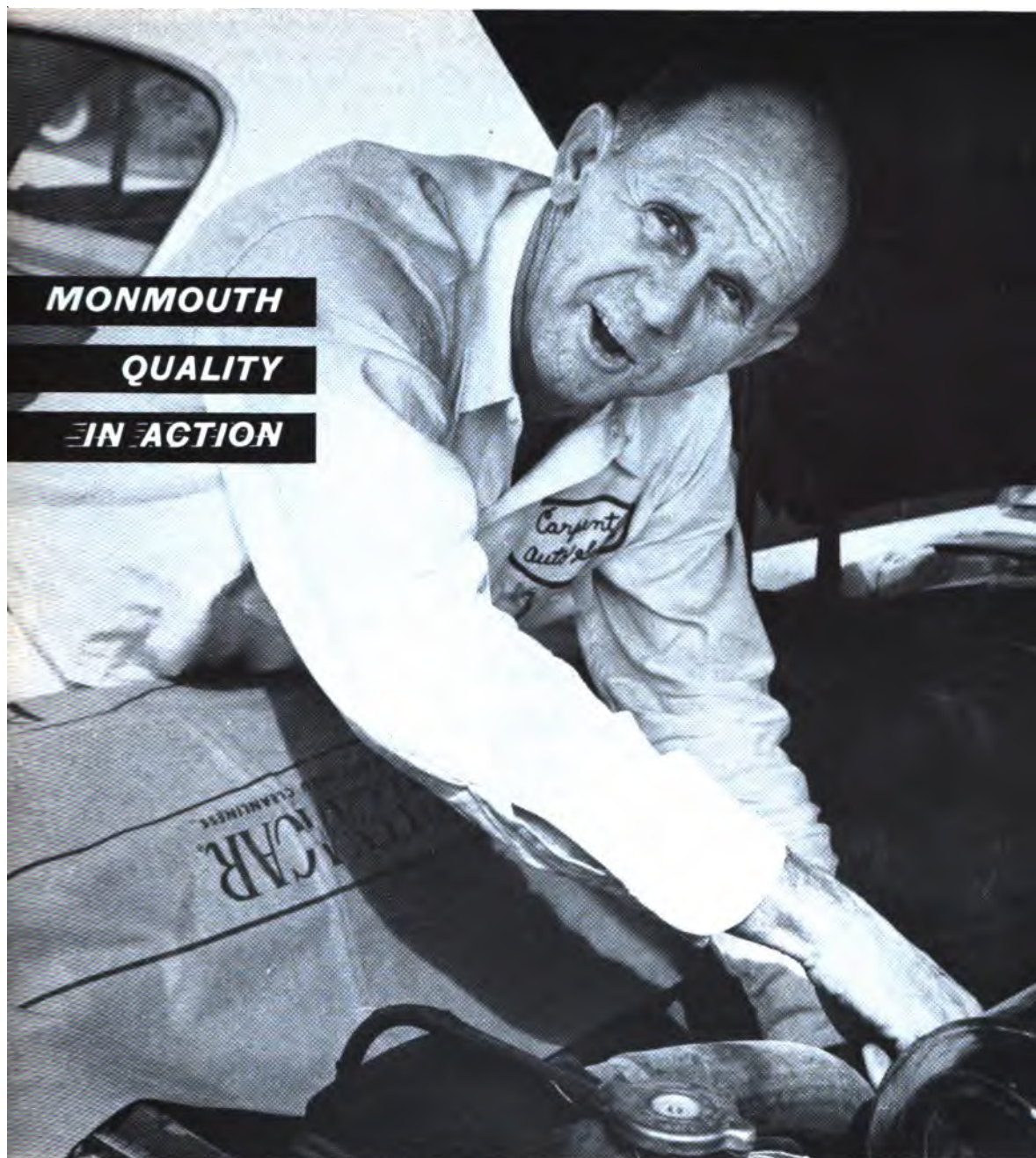
New Business Getters

Displays • Signs • Packages

Columbus Inspection Tags



Columbus Parts Corp., 1801 Spielbusch Ave., Toledo, Ohio, offers inspection tags which, when properly filled out by mechanics, let motorists know the condition of various under-body parts of the car. The blue-and-white tags can be placed on the steering wheel or dash. [CONTINUED ON PAGE 122]



'I always use Monmouth in my racing cars

... because my engines turn over at some pretty high rpm's and need a bearing that can take punishment. With Monmouth I race all season without bearing problems."

Mr. Carpenter has been racing modified stock cars for over ten years. In his customers' cars, as well as his own, he installs Monmouth Bearings exclusively—because he knows he can *always* depend on Monmouth's high quality.

If you want performance that pays off, use Monmouth Bearings on all your engine rebuilds. For instant service, call on your NAPA jobber. He can give you complete Monmouth service on all your engine bearing requirements.



says J. T. Carpenter
Carpenter's Auto & Tire
Waco, Texas

MONMOUTH Engine Bearings

EVITE SERVICE: Cleveland Graphite Bronze • Division of Clevite Corporation • Cleveland 3, Ohio

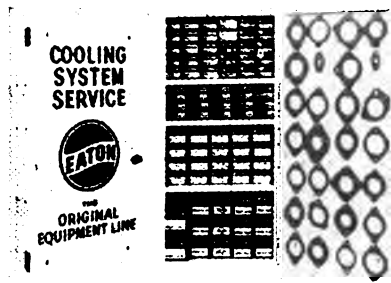
OTOR, September 1961



New Business Getters Displays • Signs • Packages

continued from page 120

Eaton Merchandiser



A cooling system service merchandiser cabinet is available from Eaton Manufacturing Co., Stamping Div., Cleveland 10, Ohio. The wall cabinet, measuring 15 by 30 by 5 in. deep, has three adjustable shelves with a capacity of 100 to 110 caps or thermostats. An accompanying door, adapted to right or left mounting, holds thermostat housing gaskets.

Hygrade Floor Display



An easel-back floor display, measuring 20 by 30 in., is available to distributors of carburetor tune-up Jiffy Kits from Hygrade Products Div. of Standard Motor Products, Inc., 37-18 Northern Blvd., Long Island City 1, N.Y. Display is silk-screened in four colors.

Wynn Counter Display



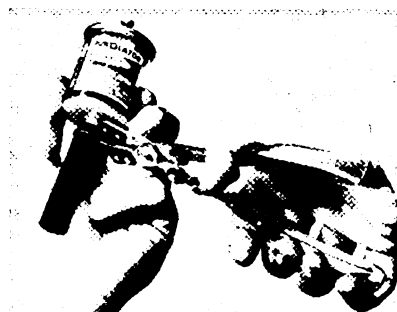
Two products are promoted in a counter display offered by Wynn Oil Co., 1151 W. Fifth St., Azusa, Cal. The products are Wynn's Transmission Stop-Leak and Wynn's Automatic Transmission to prevent leaks from recurring.

Marvel Display Carton



A display carton containing 12 4-oz. cans of Power Steering Conditioner is available from Marvel Oil Co., Inc., Port Chester, N.Y. The carton is printed in gold, white and black, matching the new cans.

Purolator Filter Package



Purolator Products, Inc., Rahway, N.J., offers a Bonus Pak that

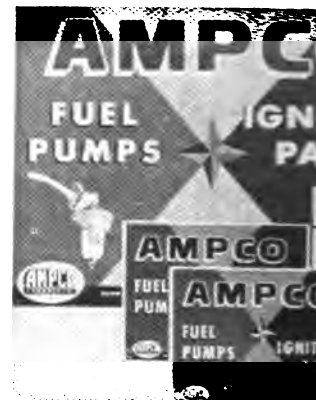
includes 12 fast-moving gaskets, a three-way rack, hose tube cutter combination booklet explaining the importance of gasoline filter window streamer.

Vaco Driver Disp



A counter display containing Phillips screwdrivers is offered by Vaco Products Co., 317 E. St., Chicago 11, Ill. Display Model No. PA-69, the opens up to 18½ in. wide high and 2 in. deep.

Ampco Decals and Banners



American Motor Products, Fond du Lac, Wis., offers a variety of window decals and counterfoamers promoting Ampco line pumps, fuel filters and parts. Pressure-sensitive decals are red and blue, measuring 1 in. The banners, 18 by 24 in., can be used on walls or counterfoamers.

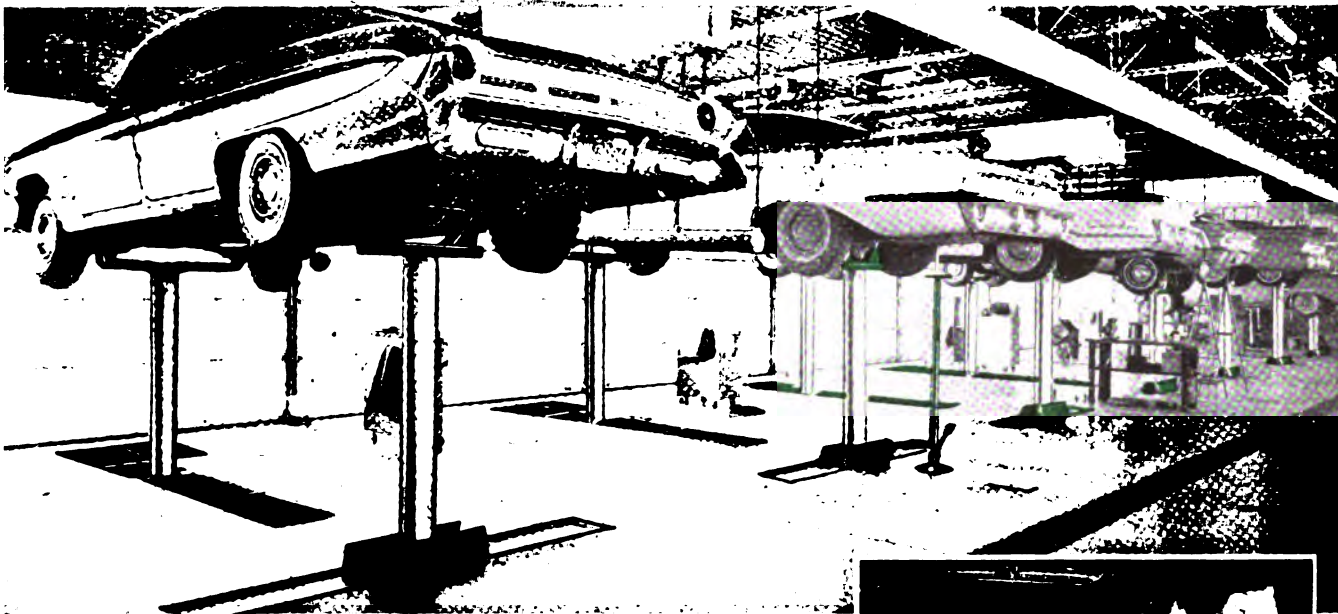
Bosch Merchandising

Robert Bosch Corp., 405 5th Ave., Long Island City 1, N.Y., offers a merchandising kit that includes a spark plug tester, a book, plug catalog, folders, [CONTINUED ON P



"OUR 11 WEAVER TWIN POST LIFTS GIVE US GREATER EFFICIENCY AND VERSATILITY"

Says: C. R. Hallier, Story Oldsmobile, Inc., Lansing, Michigan



Some of the Weaver Twin Post Lifts in Story Oldsmobile's new, modern Service Center

Weaver Equipment in Story's New, Modern Facilities Speeds "Quick Service"

In planning their Service Center to meet customers' demands for efficient, quick maintenance and minor repair service, Story Oldsmobile realized the importance of time-saving equipment, minimum car handling and organized use of work space.

"With Weaver Twin Post Lifts, under-car working area is virtually unobstructed, and we have wide working range for different wheelbases," Mr. Hallier reports. "Because of the variety of services that can be performed on Weaver Twin Post Lifts, we find it practical now, and far more efficient, to send specialists from lift to lift. We also use Weaver WJ-127 Wheel Alignment Equipment to increase the services we can perform on Weaver Twin Post Lifts".

See your Weaver jobber, or write today for Bulletin M - 457, to find out how you can offer fast, quality service, and increase profits, with Weaver Twin Post Lifts.



Stan Shaffer, Story Service Manager, and Ted Moon, check wheel alignment work done with Weaver WJ-127 equipment on a Twin Post Lift.

WEAVER MANUFACTURING DIVISION • DURA CORPORATION
Springfield, Ill., U.S.A.



SERVICE SHOP EQUIPMENT

OVER 50 YEARS SERVING THE AUTOMOTIVE SERVICE INDUSTRY

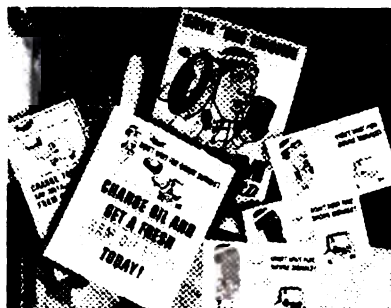
Complete Weaver line includes: Twin Post* Lifts • Triple Post Lifts* • Frame Type, Roll-On and Free-Wheel Single Post Lifts • Unit Lifts • Bumper Jacks • Car Washers • Wheel Alignment Equipment • Headlight Testers • Brake Testers • Wheel Balancing Equipment • Jacks • Wheel Dollies • and Air Compressors (*Registered Trademarks)

New Business Getters Displays • Signs • Packages

continued from page 122

a cooperative good-will promotion, a gift catalog, details on a special plug assortment and an insert explaining all the company's sales aids and point-of-purchase materials.

Fram Merchandising Aids



Fram Corp., Providence 16, R.I., offers a special merchandising aids

kit to dealers. Kit contains a window poster, colored door decal, newspaper ad mat, and a supply of post cards.

Capac Ignition Cabinets



Capac ignition cabinet merchandisers, available from Wells Manufacturing Corp., Fond du Lac, Wis., stock and display contact sets, condensers, rotors, caps, coils, regulators, switches and brushes. Also available is tune-up equipment such as, timing light, combination dwell meter and tachometer, volt-amp. generator and regulator testers, combination coil-condenser tester, remote starter button and portable carrying case.



**Here's the LOWEST COST complete
"DISPENSING COMBINATION" on the market**

DL \$3⁹⁵

SPECIAL

includes

- ◆ DL LIQUID HAND CLEANER
(Two One-Half Gallons)
- ◆ PLASTIC DISPENSER
- ◆ WALL BRACKET

Liquid DL is a product of DL Products Inc., makers of famous DL Handi-Cleaner, the original, waterless cream type hand cleaner, for more than 25 years.

DL PRODUCTS, INC.
Buffalo 4, New York

For full details write us Dept. M-9-5

LIQUID DL HANDI-CLEANER Insures "HEALTHY-CLEAN HANDS"

And here's why:

Cleans hands cleaner, faster! DL's exclusive deepdown cleansing action dissolves grease, grime, dirt and actually "lifts it out" removes tenacious stains other hand cleaners can't touch.

SAFER — INDEPENDENT LABORATORY TESTS CERTIFY DL IS A NON-TOXIC PRODUCT.

Contains both LANOLIN and HEXACHLOROPHENE — conditions hands as it cleans, guards against dermatitis and infections.

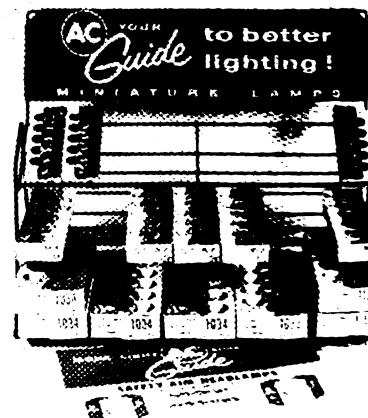
Complete — ready to use.

Mount bracket on wall, bench, pump island, etc., insert one-half gallon container, thumb screw locks container securely in place, remove metal cap, insert dispenser . . . and you have a complete hand cleaning unit at one low price!



CANADIAN OFFICES: 236 NORSEMAN ST., TORONTO 18, ONTARIO

AC Lamp Rack



A miniature lamp rack with space to store more than 300 AC Spark Plug Guide miniature lamps is offered by AC Spark Plug Div. of General Motors Corp., Flint 2, Mich. Rack is 13 in. high by 16 in. wide.

[NEW LITERATURE PAGE 129]

MOTOR, September 1961

AC YOUR BEST LINE OF SALES ACTION



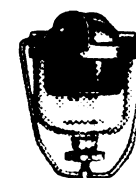
Build your service reputation and profits with AC OIL, AIR and FUEL Filters!

As of today, start ringing up extra profits on increased sales of AC Oil, Air and Fuel Filters. They're easy to sell, once motorists understand how necessary top quality filters are to efficient engine operation. You can build your reputation and your income by establishing yourself as a filtration specialist and your shop as headquarters for AC Filters.

You'll get first-class support from AC,

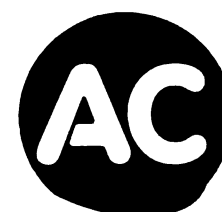
too. Through major national consumer publications, AC is helping you by telling the motoring public the filter story, with primary emphasis on oil filters. As a dealer, you play an important part in that story.

There's a big market for oil, air and fuel filters. So stock up now. Watch for the AC ads. Use the AC merchandising aids. You'll get action—real black ink sales ACTION—with AC.



AC SPARK PLUG  THE ELECTRONICS DIVISION OF GENERAL MOTORS

YOU GET ACTION WITH



AC YOUR BEST LINE



tune up for ACtion at your AC dealer's

If your car has been acting a bit sluggish lately, there's a quick and reliable way to restore the live action and power it ought to have. See your AC Dealer. He's an automobile expert with a solid reputation for service.

Ask him to give your car a tune-up. You'll get ACtion! He'll check your compression, battery, coil, distributor, timing, carburetor, and especially your spark plugs—the key to any tune-up. Your AC Dealer recommends AC Fire-Ring Spark Plugs with the self-cleaning Hot Tip that heats faster, cools faster and stays clean longer. He knows they make your tune-up last longer, too.

Your AC Dealer is a good man to know. He sells an exclusive brand of ACtion, found only under the name AC. Ask for ACtion . . . ask for AC.



**FIRE-RING
SPARK PLUGS**

Let AC tune-ups show the way to fresh service profits



**Vigorous national advertising campaign will
feature special column directing motorists to
your place of business**

There's good money in tune-ups and AC will help you get your share. Motorists are learning that it makes sense to have their cars tuned for action regularly. AC ads in leading magazines encourage the tune-up trend with a hard-sell special column which directs drivers to their AC Dealers. Remember—the best tune-up includes AC Fire-Ring Spark Plugs!

YOU GET ACTION WITH , AC

OF SALES ACTION

LET TOP QUALITY AC PRODUCTS HELP YOU BUILD CUSTOMER SATISFACTION

There's a good reason why you—and millions of satisfied drivers—get ACtion with AC. AC Fire-Ring Spark Plugs, like all the famous AC products, are the result of design skill developed over more than fifty years of leadership in the spark plug field. The self-cleaning Hot Tip is but one of the many superior product features which keep ACs delivering reliable performance longer. When you tune up for ACtion, tune up with ACs. You'll reap the benefits in unmatched customer satisfaction that pay off in repeat sales.



OTHER FEATURES

THAT MAKE AC

YOUR BEST

LINE OF ACTION

- AC's continuing program of research and product improvement, which ensures your customers of top quality whenever and wherever they buy products which bear the AC name.

- A broad accessory line of the finest quality products made—sold exclusively under the AC name.

- Greater volume of sales and faster turn-

over, made possible by greater consumer recognition and acceptance.

- A ready-made replacement market. AC products are original equipment on all General Motors cars and trucks.

- Outstanding advertising and merchandising support—the finest provided for its dealers by any spark plug manufacturer.

ORDER FROM YOUR SUPPLIER NOW

you get AC**tion with**



**80% of your customers have
AC Fuel Pumps as original equipment**

When you replace a fuel pump, always reach for the box with the AC bull's-eye. It's the best way to serve your customers . . . the surest way to strengthen your reputation for reliable service . . . and the safest way to ensure replacement with the fuel pump specified by the manufacturer.

The proof is in the figures. So completely have AC Fuel Pumps won the approval of specifying engineers that they are original equipment on 80 per cent of all cars, trucks, buses and tractors. Four out of five new vehicles use ACs (and they're equally efficient on marine, aircraft and stationary engines)!

This remarkable record of acceptance by *the men who know automotive components best* speaks for itself. For over 32 years, fuel pumps bearing the AC name have proved their ability to do a vital and demanding job under the toughest conditions. Today you can get AC reliability only under the AC name.

Protect your reputation. Install AC Fuel Pumps exclusively. They lead the field in coverage, reliability . . . and profit!

AC FUEL PUMPS

AC . . . YOUR BEST LINE OF SALES ACTION

NEW LITERATURE

Booklets • Catalogs • Manuals

DOL CATALOG—A 32-page pocket-size catalog, covering over 2 tools for automotive service work, includes sections on valve, engine, brake and wheel, body, painting and ignition. Free. K-D Tool Co., Lancaster, Pa.

PAKE CABLE CATALOG—Catalog AU-1442 lists parking brake cables by their vehicle applications, numerical parts lists, and in a separate index of various manufacturer parts numbers to the corresponding part number of this company. Parts and Accessories Div. of General Electric Corp., 6400 Plymouth Ave., St. Louis 14, Mo.

STEAM CLEANING BOOKLETS—One booklet, titled "How to Get the Most Out of Steam Cleaning," offers tips on steam cleaning in general and lists essential properties of detergents used in steam cleaning that should have. The other is an illustrated 16-page booklet called, "Steam Cleaning Maintenance Manual." Free. Oakite Products, Inc., 135 Rector St., New York 6, N.Y.

VALVE CATALOG—This 24-page catalog covers components and equipment specifications on valves, cores, caps, tire inflators, accessories, tools and repair manuals for tube and tubeless tires.

A. Schrader's Son, Div. of Hill Manufacturing Co., Inc., 170 Vanderbilt Ave., Brooklyn, N.Y.

POWER BRAKES BOOKLET—This 8-page booklet called, "Take the Mystery Out of Power Brakes," explains how to pinpoint power brake troubles, without instruments, while mechanic sits in car. United Parts Div., Echlin Manufacturing Co., 1250 W. Van Ness St., Chicago 7, Ill.

FUEL PUMP BOOKLET—This 8-page, vest-pocket-size booklet describes and illustrates with diagrams how the maker's fuel pumps overcome the six common causes of fuel pump failures. Free. Wells Manufacturing Corp., Fond du Lac, Wis.

SPRAY BOOTH CATALOG—Catalog No. SB-1 describes the company's complete line of spray painting booths and related equipment—such as, air exhaust fans, chambers and systems, infra-red ovens, mixing and circulating tanks, pumps, and stand pipes. Free. Binks Manufacturing Co., 3140 Carroll Ave., Chicago 12, Ill.

CLEANING SOLVENTS CATALOG—This four-page catalog describes six parts cleaning solvents. Several special use cleaners for car-

buretors, engines and automatic transmission parts are covered along with solvents for use in cold-type parts washers and soak tanks. Free. Graymills Corp., 3705 N. Lincoln Ave., Chicago 13, Ill.

TUNE-UP HANDBOOK—This 60-page handbook contains facts, figures and illustrations to help mechanics through all engine tune-up operations using modern testing equipment. Free. Sun Electric Corp., Harlem and Avondale, Chicago 31, Ill.



BRAKE SHOP

Here's everything you need to become a complete brake service shop. With a Star Space-Saver Brake Shop you're ready to handle any brake job from start to finish—with the precision equipment to do the best brake work in your area. The Star Space-Saver takes less than five square feet of floor area, rolls anywhere on swivel casters.

You can buy the Star Space Saver Brake Shop now, on Star's Pay-out-of-Profits Finance Plan. Mail the coupon for demonstration proof!



STAR MACHINE & TOOL COMPANY
205 Southeast 6th St., Mpls. 14, Minn.

Yes! I'd like to see what the Star Space-Saver Brake Shop can do for me.

Name

Address

City State

MOPAR

COVERS ALL THE BASES!



genuine "new"
MoPar Parts
Accessories
for Chrysler
Corporation
vehicles

New MoPar
"Universal" Parts
for other makes
of vehicles

MoPar Approved
Remanufactured
Parts for Chrysler
Corporation
vehicles

Rempar Quality
Remanufactured
Parts for other
makes of vehicles

for quality parts and accessories...

YOU NAME IT...MOPAR'S GOT IT!

For every car or truck you service—whatever your maintenance requirements may be—MoPar has the *right quality* answer—the *right part at the right time*!

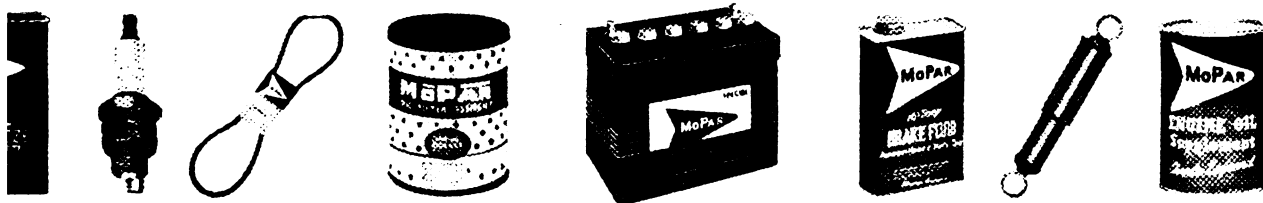
MoPar parts fit right, work right, install quickly, save labor time, keep your jobs rolling on schedule.

Whether you use new parts and accessories or remanufactured parts, you can install these replacements with confidence . . . knowing that MoPar

quality will back up your reputation for fine service.

MoPar is ready now to give you fast, efficient service and delivery on any part—from cotter pins to 8-cylinder engines—on any size orders—from the smallest to the largest.

Smart service operators know that it pays to install *quality* parts as replacements for original equipment. Call your MoPar Wholesaler or Chrysler Motors Corporation Dealer.



**PARTS
AND
ACCESSORIES**

MoPar Parts and Accessories, Chrysler Motors Corporation, Detroit 31, Michigan

Dealers Must Still Fight for Their Rights

continued from page 43

Shipping of unwanted cars was one of the most serious grievances the dealers had back in those days. If they refused to take all that were sent, even if they included models they could not possibly sell, their franchise was as good as gone. Dealers in farming villages were getting seven-passenger landaus and city dealers got their quota of

farm tractors, if their factory happened to make them.

Clean-ups were often disastrous. I won't take the space to list the almost countless tricks used by factories to load up their dealers with outdated models.

It seemed back before the great 1929 depression that the car factories, consciously or unconsciously, were determined to break dealers as fast as they could appoint new ones.

The obvious remedy was concerted opposition by dealers to

these highbidding tactics. At it seems obvious when viewed from today's perspective. It was a mendacious job at the time dealers themselves to see the end of this.

When I went to the Pennsylvania Automotive Assn. on 1925, it was four years old. Its predecessor, the Intra-State to Dealers Assn., is included six years old. Yet few dealers outside the state's medium-size had even heard of it, and Philadelphia and Pittsburgh gave it scant support.

Fraternizing Forbidden

There was reason for this action. Some of the car factories actually forbidden their dealers to break bread with a dealer handling another brand of car. The forced line groups to disband early days. They could not have been any more afraid of an association if it had been a union.

Gradually, many dealers became convinced that they could not do the factories with their grievances—and with the injustices which they labored—only if they joined hands. Of course, some dealers never learned. This led to the sorry sight of factory stooges on the boards of many dealers' associations, including the national. No matter what action they took, the factories seemed to be one step ahead.

Factories Called

I recall one meeting of the kind of one of the most important negotiations back in the wild and woolly days before the depression when seven members of the group sneaked out of the room to their factories for instructions. Dealers have always been in a bind, and I suppose this was no exception. Actually, of course, it was pure selfishness. Conscientious dealers found these stooges a block for years, but the block had been drastically reduced.

The first lesson in the value of cooperative action was learned by dealers, I'm sure, during the administration of the National Recovery Administration between 1933 and 1935. Before that controversial legislation

[CONTINUED ON PAGE 133]

Get A Perfect Tire Repair Every Time with DILLECTRIC

Dillectric tire repair actually vulcanizes the injured area. It welds new rubber so thoroughly to the old that the repaired area becomes as strong as the tire was when new.

There is a Dillectric patch for every type of puncture or cut:

- 5 sizes for tube repairs.
- 2 sizes of nylon reinforced patches for tubeless tire repairs.

And you can increase your tire repair profits, too!



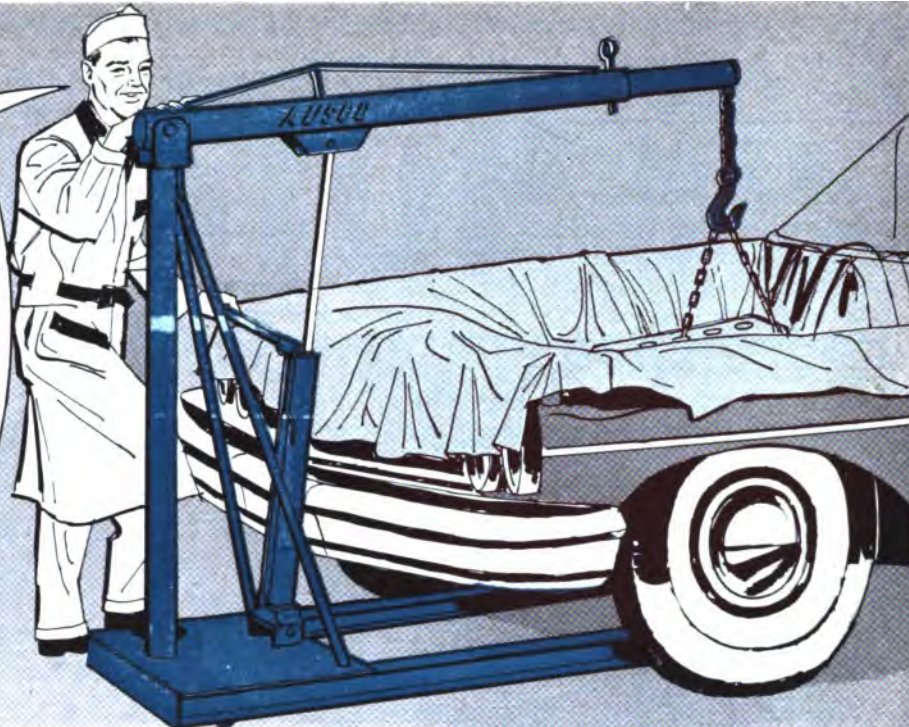
NEW
DILLECTRIC CATALOG
and PRICE LIST
Just off the press.
ASK YOUR SUPPLIER!

DILL®

Manufacturing Company

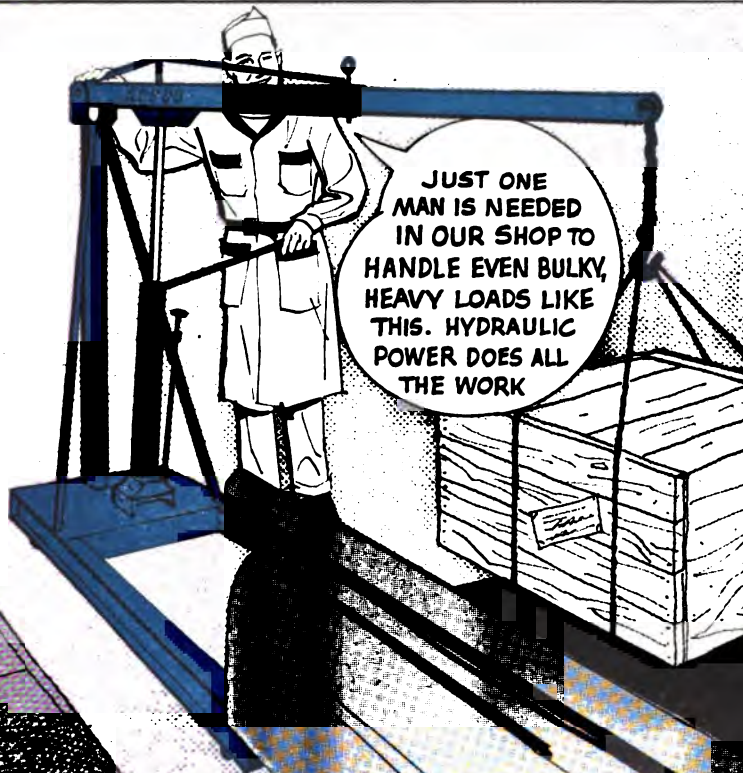
CLEVELAND 3, OHIO

Offices in Los Angeles, Akron and Toronto
Subsidiary of The Eaton Manufacturing Company



Our
**AUSCO
MOBILE
CRANE** is the
work-savingest
equipment
in the shop!

IT'S A CINCH TO PULL
A MOTOR WITH
OUR RUGGED
AUSCO CRANE



JUST ONE
MAN IS NEEDED
IN OUR SHOP TO
HANDLE EVEN BULKY,
HEAVY LOADS LIKE
THIS. HYDRAULIC
POWER DOES ALL
THE WORK



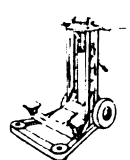
THE AUSCO TRUCK MOUNTED
CRANE TAKES THE BACKACHES
OUT OF LOADING AND UN-
LOADING. EXTRA MOUNT-
ING WELLS
MULTIPLY
ITS USE.

$\frac{1}{2}$ TON • $\frac{3}{4}$ TON
1 TON • 2 TON
MODELS
AVAILABLE


AUSCC

AUTO SPECIALTIES MANUFACTURING CO.
ST. JOSEPH, MICHIGAN • WINDSOR, ONTARIO, CANADA


One End Lift




Garage
Hoists




Saf-Lift
Bumper
Jacks



Transmission
Handlers



Hydraulic
Service
Jacks



Dealers Must Still Fight for Their Rights

continued from page 132

declared unconstitutional in the latter year, dealers had a taste of the results that working together for the common welfare can achieve

With good-will and good judgment, dealers produced the code under which automobile retailing operated until the NRA Act was thrown out. It was a revelation to

most of them that a dealership could be run like any other business, without apology and without backbreaking pressures. For the first time since a dealer had accepted the first vehicle in trade, retailers were able to make money on used cars. Of course, factories then cut discounts on accessories and we were back where we started.

It would not be correct to say that all dealer cooperation dates from NRA days, because we had it to a limited extent before, and it is still limited. That experience with

the code almost 30 years ago did prove, though, that cooperative effort can get results.

Today's outstanding problem, as it was back in 1925, is that of getting individual dealers to take an interest in their association after they join and, second, to assume some of the work load that any serious activity by the association entails. Every association official has broken his pick on the stony indifference of his rank-and-file members. They will pay their dues and phone headquarters for help on an immediate and pressing problem but they will not attend meetings or accept office or even appointment to committees.

Need Members' Help

I have no idea to how this much-needed interest can be stimulated. Sometimes I feel it is sheer selfishness and that, of course, presents the problem of changing a man's character. It seems certain, though, that the paid and elected officials of all associations must keep after members continuously for help, advice and volunteer work. It makes me shudder to think how much would get done if members were not nagged in this way.

All this brings me to the final question: What is the biggest need of dealers today and what can associations do about it?

No one would argue that the great need is the opportunity to make a profit. Notice, that I say

[CONTINUED ON PAGE 136]

Everything You Need For Automatic Transmission Repairs

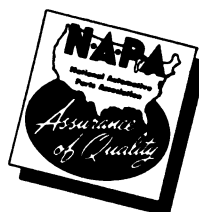
Parts

Parts Kits

Service Information

(Wall Charts, Manuals, Catalogs, Field Clinics)

See Your N·A·P·A Jobber



● For *complete* parts service for automatic transmissions on cars of all makes, models and ages . . . for the latest approved techniques of adjustment, repairs, or complete overhauls . . . contact your N·A·P·A Jobber, a good man to know.



"I could have walked to work, but I was only half shaved when the battery went dead"

MOTOR, September 1961

BACKSTOP YOUR RING JOBS

What you really sell is customer satisfaction—make sure of it. Here's the secret...

When the break-in period is over, make sure your ring jobs keep on giving customers the improved performance and the gas and oil savings they expect. Recommend the motor oil that cleans as it lubricates, to prevent sticking rings and noisy lifters. Customers appreciate it. And you'll appreciate more repeat business and bigger profits!

The oil that protects your good work best is Pennzoil—the world's richest, most complete motor oil. So rich, it gives double the protection demanded! So complete, users never need extra additives! Because the special power ingredient, Z-7, keeps parts *clean*—stays on the job for the full life of each oil change.

Pennzoil Z-7 makes customers happy . . . builds more business . . . boosts your profit. So protect *all* your engine jobs with Pennzoil. Call your Pennzoil distributor, listed in the Yellow Pages, or write Pennzoil, Oil City '3, Pa.



2 Great Motor Oils!

This great pair of 100% pure Pennsylvania Motor Oils with Z-7 stays tough full time—keeps moving parts clean and free of excessive wear. Use them—recommend them, for top customer satisfaction.

Famous Pennzoil with Z-7
In all correct service grades.
Pennzoil 10W-30 with Z-7,
world's only oil-rich,
multiple-viscosity oil.



Member Penn. Grade Crude Oil Assn.,
Permit No. 2, Oil City, Pa.

Dealers Must Still Fight for Their Rights

continued from page 134

opportunity, because I don't believe anyone can seriously expect a business man, in the automobile trade or out, to be guaranteed a profit. This opportunity, if I read the last 36 years correctly, is not one that car factories are about to provide voluntarily.

Do not jump to the conclusion, when I say this, that I am fa-

natically anti-factory. It is merely that I am pro-dealer. I was when I went to work in the Pennsylvania Automotive Assn. back in 1925. I am as I lay down the reins this month. My hope for dealers through all these years has been that they be fairly rewarded for their efforts.

It has been said many times that car factories do not like successful dealers, or at least rich ones. A dealer well-cushioned with greenbacks is apt to develop the nasty habit of talking back.

I can't conceive of this being true. Factories must realize that they cannot sell cars without franchised retailers. They have tried other methods of marketing their products and the ventures have always cost them money.

It follows that they cannot have dealers unless dealers make a profit. Nobody, including the factories, is in business just for the ride or to get material for a book. They are in it to put a little money in the bank.

Red Ink Figures

If factories are worried about any dealer's getting rich, I think they can stop. A look at the figures for the first six months of this year ought to show them that profit is a word dealers are crossing out of their dictionaries.

If dealers are going to be permitted to make a little money, we do not need new laws or regulations. Somebody can always find a way to avoid them, almost before they are written.

What we need is a change of heart at the factories. I mean a genuine change in attitude toward dealers and their problems.

I know we have a good faith act and a more equitable franchise than we once had. But factories—perhaps only factory men—have subtle ways of applying pressure to retailers, and they do it. Too many dealers either do not know how to resist the sweet talk or they are afraid.

On Wrong Beam

We have to get away from that kind of thinking. Factories should stop rating its field men solely on the basis of registration figures in the areas for which they are responsible. Some weight should be given to the financial health of the dealers under their direction. Sick dealers are not long for today's competitive world. Dealers of any kind are becoming more and more difficult to find.

In my opinion, the recommendations made by the Task Force of the National Automobile Dealers Assn. would go a long way toward setting things right for the car retailer. These, as all dealers must know by now, get into such problems as limits on inventories, prop-

[CONTINUED ON PAGE 140]

For faster, easier parts cleaning . . . Join the trend to—



...the modern, safe way to clean automatic transmission, power brake and motor parts

The modern CLEAN-O-MATIC "500" assures better work, customer satisfaction and protects your profits. It not only saves service time, but it also makes a mechanics job easier, less tiring. Designed to reduce fire hazards to life and property, the CLEAN-O-MATIC is built so rugged and dependable, the pump and tank carry a 5 yr. warranty. The CLEAN-O-MATIC is also available in 3 other low-cost models.

Join the trend to modern equipment for more profits . . . send for catalog or ask your jobber for more facts.

GRAYMILLS CORPORATION
3757 N. LINCOLN AVE.
CHICAGO 13, ILL.

BE COMPETITIVE PROFITABLY WITH A CLEAN-O-MATIC

**GRAYMILLS
CLEAN-O-MATIC
"500"
PARTS WASHER**

**8 EXCLUSIVE FEATURES
MECHANICS AND SERVICE
MANAGERS WANT . . . and
OWNERS NEED!**

CONVENIENT
NO-FATIGUE
WORKING
HEIGHT

PISTOL-GRIP-JET
FLUSH NOZZLE

EASY-TO-SERVICE
FILTER above
liquid level

REMOVABLE
SLUDGE TRAYS

CONVENIENT CONTROL
SWITCH & PILOT LIGHT

FLEXIBLE METAL
FLUSH HOSE

AUTOMATIC
SAFETY COVER—
self-setting with
thumb release

3-WAY
SELECTOR
VALVE
HYDRO-JET AGITATED
SOAK TANK

This is
EIS

THE
**BRAKE
PARTS**
LINE

**BASIC MANUFACTURER OF
QUALITY HYDRAULIC AND POWER
BRAKE PARTS, TOOLS, EQUIPMENT,
"SUPER" SAE BRAKE FLUIDS**



Ask your **EIS** Distributor or
write for catalog



EIS AUTOMOTIVE CORP.
Middletown, Conn.

**DESIGNING
ENGINEERING
MANUFACTURING**
all under one roof

Big Du Pont Ad campa

"DU PONT SHOW OF TI
featuring top stars, top stories, on the best vi
Sunday—starting September 17. Commercial
and "Telar" will be seen by millions of customers for eigh
anti-freeze weeks during the peak of the anti-fi

IT'S NEW...IT'S GREAT...IT'S THE

DU PONT SHOW OF THE WEEK

DURING THE ANTI-FREEZE SEASON:

- | | |
|----------------|------------------|
| ★ GROUCHO MARX | ★ GEORGE BURNS |
| ★ PEGGY LEE | ★ PAUL WHITEMAN |
| ★ VIC DAMONE | ★ STEVE LAWRENCE |
| ★ COUNT BASIE | ★ EYDIE GORME |

★ AND MANY OTHERS

WILL HELP YOU SELL ZEREX® and TELAR®



BETTER THINGS FOR BETTER LIVING... THROUGH

ell TELAR® and ZEREX®

THE BIGGEST MAGAZINE PROGRAM
anti-freeze history—Life, Reader's Digest,
Post, Time, Newsweek, U.S. News & World
Report, Holiday, Sports Illustrated!



RADIO, RADIO AND MORE RADIO!

The nation's top radio stations
throughout the country are
on Du Pont's radio schedule
—the biggest, broadest radio
coverage yet. And commercials
are scheduled during the
peak driving hours for
each market.



RDS WILL BLANKET THE COUNTRY
mind your customers while they're behind
el that it's time for Du Pont ZEREX again.



THE DU PONT DISPLAY KIT

starts to sell the minute it goes up. Includes window
streamers, banners, protection chart, price bullets,
instruction sheet—plus TELAR replacement certificates.
Get this kit free from your Du Pont anti-freeze supplier.



FREE OFFER:

aching A-frame poster, telling motorists you have
in stock. You can get one or two of these point-of-
posters free by filling out the coupon below and sending
it now! Get a fast start on fall anti-freeze sales.

Mail coupon to:
E. I. du Pont de Nemours & Co. (Inc.), Anti-Freeze Products Section, Dept. M,
Nemours 2420, Wilmington 98, Delaware

Send me 1, 2 large posters for TELAR Anti-Freeze
and Summer Coolant. (Circle number you want.)

Your name _____
Street _____
City _____ Zone _____ State _____

Dealers Must Still Fight for Their Rights

continued from page 136

er mixing of models, realistic sales potentials, sensible incentive plans, a return to price-class systems, a 3 per cent holdback of discounts, help with floor planning on excessive inventories, a more clear-cut selling agreement and so on.

I do not think all these objectives will be achieved immediately but the Task Force is on the right

track. These objectives must be fought for without letup.

It would not be fair to leave the impression that everything must be done by the factories. Dealers themselves, and especially their associations, have a responsibility, too.

Over the years I have seen associations become enmeshed in many activities that were outside the field of their members' immediate interests. Usually, these were undertaken to help swell income. I am as much for income as anyone else but not if it interferes with the

group's efforts to bring about improvement in the economy of the members. Unless a dealer can feel a lift to his profits, spirits and his standing in the community, I doubt that he will give an association much credit for things for him. He is much more interested in the balance in his own bank account than in his association's.

Except for a few years ago, beginning, I have spent my life trying to serve automobilers. As I bow out of active participation in their affairs, I feel a bitterness with their failure to achieve more, but I have seen progress made. I am not discouraged because I know so much more to be done.

I am certain this further progress can be made, but it will cost price. That will be the lack of enthusiastic support by even some of his association's efforts to prove the lot of all dealers is within its scope.

Progress will be a testing time to know dealers can fight, because I have seen them do it when I was there. There never was a better time now to be aroused.

THE END. NOW TURN BACK TO

Win Fisher Scholars



GM President John Gordon and Fisher Body general manager E. C. Klotzburger (right) top winners Will and

Top winners in the 196 model car competition were Will, age 18, Hobart, I. Anthony Simone, 15, Princeton, N.J. Each won a \$5,000 scholarship.

In all, 20 young designers won \$44,000 in university schola

Pick Hydraulic Brake Parts

MASTER AND WHEEL CYLINDER REPAIR KITS

Repair kits to fit all cars... and many trucks. Cups molded of High Temperature Resistant Rubber... meets SAE 60R2 specifications.

HYDRAULIC BRAKE HOSE

Numbers to fit all cars and many trucks. Each hose individually boxed for convenient stocking; part number clearly marked for quick identification.

STOPLITE SWITCHES

Complete coverage of passenger cars... and many trucks. Individually boxed for easy, convenient stocking. Keep popular numbers on hand for emergencies.

SPECIAL INTRODUCTORY OFFER ON PICK WHEEL CYLINDER REPAIR KITS!

Two assortments... each containing coupons worth \$1.00 credit against purchase of axle set of Pick Exchange Shoes.

Deal #4—Contains 1/2 doz. each of the 8 most popular wheel cylinder kits (48 kits)... and four \$1.00 coupons.

Deal #9—Contains 1 doz. each of the 8 most popular wheel cylinder kits (96 kits)... and nine \$1.00 coupons.

Also a twelve Kit Pack for the price of eleven! Ask your Pick jobber

Pick Hydraulic Brake Parts

PICK MANUFACTURING COMPANY • Automotive Division • West Bend, Wis.

Cures Flickering Lights

ed from page 45

forget, when making a quick with an ammeter on Delco-equipped cars, that there is a difference in the procedure between 30 or 35 amp. regulators and 45 amp. regulators.

For the lower amperage regulator, connect the ammeter in series in the field circuit between the regulator and the battery. Turn on the heater and headlights to load the motor and keep the contacts clean and adjust engine speed to about 5 amp. charge. Then disconnect the field circuit with a jumper wire. If the ammeter reading increases to more than 7 amp., the contacts are oxidized.

Can Damage Regulator

For 45 amp. systems, the procedure is the same but the field wire is connected to the "F" terminal on the regulator must first be disconnected before the field is grounded. To do this will damage the regulator.

High contact resistance is indicated when the large, flat contacts on the current and voltage regulator are cleaned with a spoon or riffler file. There is a slight wiping movement of the points when they contact. Working in this manner will avoid possible mechanical interlocking. If the contacts are burned or pitted to cause metal transfer, a crater on one point and a depression on the other, file both to remove a major portion of the burned area, and finish with fine cloth. All other contact points in the regulator are a soft metal and should be cleaned with fine cloth or other flexible abrasive for the purpose.

Wipe Contacts Clean

If the oxidation has been removed, wipe the contacts with a fine cloth, saturated in carbon tetrachloride, to remove any foreign matter. Then dry the contacts, using a strip of dry linen tape. The contacts should be open when the tape is removed so that threads of the tape are not retained by the contact pressure.

Then check the tension of the motor drive belt, then make a

complete test of the charging system. In addition to making the usual amperage and voltage checks of the cutout relay, voltage regulator and current regulator, make sure the air gaps and contact openings are set to manufacturers' specifications.

Special procedures can be applied on a number of makes when a general check does not produce satisfactory results. On General Motors cars equipped with 30 or 35 amp. regulators having a single contact in the voltage regulator,

special regulators are available. The replacement is of the same capacity, but the voltage regulator has double contacts. A 45 amp. regulator with double contacts should not be installed on any car equipped with a 30 or 35 amp. regulator.

The special replacement is also available for Studebaker V-8's. Keep in mind, when testing one of these special regulators with double contacts, that the field lead at the regulator must first be disconnected.

[CONTINUED ON PAGE 144]

\$10,784
in 1 Year
SERVICING RADIATORS!

"The very least we can say about our Inland radiator servicing equipment is that we are delighted with it and the volume of business it has brought us. For instance, last year we grossed \$10,784 (net profit \$7,068.10) from our radiator department alone!"

—SIDNEY RADIATOR & GLASS SHOP,
Sidney, Mont., (Pop. 3,987)

Advertised in
POST LIFE

Why send radiator jobs away? Add an extra \$8,000, \$10,000, \$12,000 or \$15,000-a-year with Inland's factory-method radiator servicing.

JUST CONSIDER: (1) There is an ever-growing number of autos, trucks and tractors in your area, (2) Modern cooling-system pressures have been increased to the point where radiators require far more frequent servicing.

INVESTIGATE—Have us mail you full details:

- Photos and statements from Inland-equipped shop owners,
- Inland's "Pays-For-Itself" payment plan,
- Inland's free factory school which trains you or your man quickly,
- Inland's proved merchandising and selling helps.

MAIL TODAY

New free 48-page book, "Blueprint for Profits," tells about many making an EXTRA \$8,000 to \$15,000 a year servicing radiators. Complete with illustrations, descriptions and prices of required equipment. Popular "Pays-For-Itself" purchase plan. Invest a minute to mail the coupon—the rewards can be amazing! Send today!

INLAND MFG. CO., 1108 Jackson St.

Dept. M-9, Omaha 2, Nebr.

"SOLD EXCLUSIVELY BY MAIL"

INLAND MFG. CO., Dept. M-9, 1108 Jackson St., Omaha 2, Nebr.
Please send new free book, "Blueprint for Profits."

FIRM _____
(PLEASE PRINT)

ADDRESS _____

CITY _____ ZONE _____ STATE _____

BY _____ TITLE _____

If dealer, make of car sold _____
Are you now operating a radiator dept.? ☐ Yes ☐ No

Five "firsts" on the "Fourt Automotive engines do the



PIKES PEAK STOCK-CAR CLIMB—Swinging around one of the 152 switchback curves that makes this upward climb one of the world's toughest tests for car and driver, Louis Unser pilots his Champion-sparked Chevrolet to a record-shattering victory in the 1961 Pikes Peak Auto Hill Climb for stock cars. The old stock-car record, set in 1957, was 15:39.2 minutes. Louis Unser shaved off better than half a minute, setting a new mark of 15:06 even!

prove again...

best with Champion spark plugs!

From the cold, rarefied air of snow-topped Pikes Peak to the sweltering heat of the Daytona Speedway, the Fourth of July was a big day for auto racing—and for Champion! A day that proved again something that has been proved countless times before: No matter what the engine—or how tough the driving conditions—you can always depend on top performance from silvery-plated Champions . . .



PIKES PEAK CHAMPIONSHIP CLIMB—In the fastest drive ever made up the mountain, four-time winner Bobby Unser makes it five victories as he becomes the first man ever to drive to the top in under 13 minutes! Smashing the record (13:28.5) he set last year, Unser's Champion-sparked charger whipped up the 12.42-mile course in 12:56.07 minutes! On some of the short straights he hit 120 mph!



DAYTONA "FIRECRACKER 250"—In a blistering race (154 mph) on a blistering track (126°), David Pearson slams his Champion-equipped '61 Pontiac into the lead on the all-important last lap to win his second big NASCAR Grand National race of the year. Earlier, Pearson won the Charlotte "World 600" in his Champion-sparked stocker.



INDIANAPOLIS RACEWAY PARK—Norm Nelson, 1960 USAC stock-car champion, dominated the day in his Champion-fired '61 Ford: Fastest heat, fastest qualifier, winner of the Trophy Dash—and winner of the 100-lap main event.



TRENTON, N.J.—Sharing the driving chores with Jim Davies, Bob Marshman, co-choice for 1961 "Rookie of the Year" at Indianapolis, drove the Champion-equipped Konstant Hot Special to victory in the 250-mile USAC race.

These Champion-sparked victories are but part of a long and continually growing list of performance events won by cars using always-dependable Champion spark plugs.

Why is Champion the spark plug that wins most performance events? Simply because performance experts know that—regardless of claims—no one has ever built a spark plug to outperform a Champion in an automotive engine! It's a good reason for always equipping your customers' cars with the performance spark plugs—silvery-plated Champions!



CHAMPION SPARK PLUG COMPANY • TOLEDO 1, OHIO

Easy Cures For Flickering Lights

continued from page 141

nected before the field is grounded.

To check the cause of light flickering, ammeter fluctuation or a variation in heater-blower motor speed on a Chrysler Corp. car equipped with an alternator, first remove the field lead wire at the "IGN" terminal on the voltage regulator. Then connect an insulated jumper wire between this terminal

and the positive post on the battery. This bypasses the car wiring that feeds the regulator.

Now start the engine and determine whether the jumper wire has corrected the trouble. If the flickering has been eliminated, or noticeably reduced, it indicates high resistance in the wiring circuit between ignition and voltage regulator wiring circuit. Use a voltmeter to make a point-to-point voltage-drop test from the battery terminals, through the ignition switch and ballast resistor, to regulator.

On models with an in-line fuse in the circuit, remove the fuse from its holder. Clean the fuse and the terminals on the fuse holder. Then tape the holder to prevent the entry of moisture. Check the blade-type terminals in the circuit for looseness and corrosion.

If the use of the jumper wire has no effect on the flickering, check the voltage-regulator setting to manufacturer's specifications. The transfer voltage from the upper contact to the lower contact is important. There should be a minimum of .2 volt and a maximum of .7 volt difference between the voltage reading taken at 1,250 engine rpm and the voltage at 2,200 rpm. When the difference is .2 volts or less it is usually an indication that the air gap is set too low.

Remove the regulator and adjust the air gap to .048-.052 in. and the contact clearance to .014-.016 in. Retest after the regulator is reinstalled.

Install Jumper Wire

In cases where a jumper does not help the flickering, and voltage regulator settings are standard, remove the regulator and install a permanent jumper wire. Cut a short piece of copper wire, and solder one end of it to the terminal on the single 38 ohm resistor wire at the ignition terminal end of the regulator. Solder the other end to the base of the regulator. Use only rosin-core solder, and make certain the regulator base is sufficiently hot to get a secure connection.

Blinking headlights on a 1960 Ford or Falcon can be caused by a defective circuit breaker in the ignition-switch assembly. With 36 amp. flowing on Ford, or 24 amp. on Falcon, the circuit breaker should open within 30 seconds. If blinking occurs, and other parts in circuit check out, replace headlight switch.

THE END. NOW TURN BACK TO PAGE 45

Mechanic Wins Contest

Paul Hutchinson, employed at Milltown Garage, West Chester, Pa., and Charles Loughin, salesman for Kish Motor Parts Co., Downingtown, are top winners in Champion Spark Plug Co.'s Trip of a Lifetime contest. Each won use of an airplane and crew for two weeks with all expenses paid.

Have you checked lately on what you spend for outside press jobs?

Add up what you now spend for outside press jobs—including the hidden cost of having work delivered and picked up. Then compare this with the cost of owning an ACCO Hydraulic Press. You'll soon discover you would be money ahead with an ACCO press in your own shop for straightening, parts removal, or any one of many repair jobs. And, you'll find that on a "cost per day" basis an ACCO Hydraulic Press is a profitable investment.

Here are just a few of the superior engineering features and advantages which ACCO Hydraulic Presses offer:

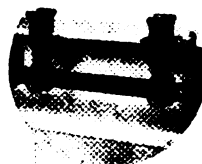
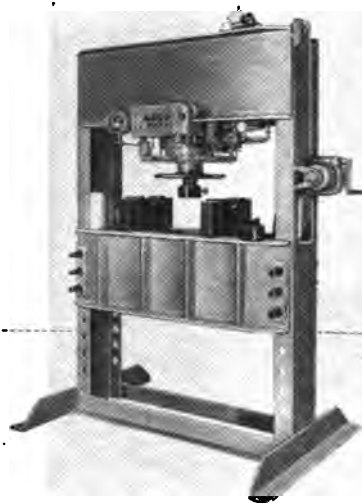
- Available in 25, 40, 60, 80 and 150 ton capacities
- Air or manual operation, or a combination
- Units to convert from manual to air operation
- Safety valve in oil line prevents overloading
- By-pass prevents over-extension of ram
- Depth gage accurately indicates ram movement
- V-type packing reduces friction

For complete information, contact your ACCO Equipment jobber. If you don't know his name, write us at York, Pa.

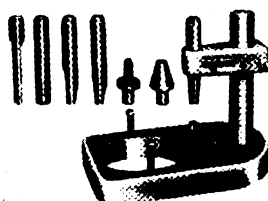


ACCO HYDRAULIC PRESSES

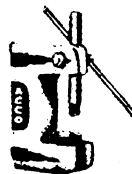
Acco Equipment Division • American Chain & Cable Company, Inc.
York, Pa., Chicago, New York, Denver, San Francisco, Bridgeport, Conn.



Universal
Test Centers
For checking
run-out of shafts
and axles



Rivet
Upsetting
Tool
For hot and
cold rivet
upsetting



Auxiliary
Arbor
Press
3-ton capacity
... For light
jobs...
Available
with
all models

In Passing

six years see a lot of
faces in this business.
a reference book for the
lustry officials you come
ies like Ivan Wiles (Bu-
Ahrens (Cadillac), T.
g (Chevrolet), F. C.
ercury), J. P. Mansfield
, James J. Nance (Pack-
l G. Hoffman (Stude-
t to mention Harlow H.
T. Keller, W. C. New-
D. S. Harder—all big
the business only a few
How many names high
ar's roster will still be
or six years hence?

ies Hang onto Cash

appear to be in a re-
t mood on investing
money in retail outlets.
ictory money continues
able for dealer develop-
cts in areas where con-
mes are high, manufac-
not pumping financing
operations to the ex-
did a few months ago.
urces confirm the trend
to discuss the thinking

rd to Diversify

otor Co., which spent
ting itself of the numer-
otomotive ventures that



O.K., you were right
bearings are shot"

September 1961

Henry Ford tacked onto his empire,
will shortly begin production of a
vinyl material for furniture, cloth-
ing, office supplies, women's acces-
sories and you-name-it.

Prophet with Honesty

An industry figure famous for re-
fusing to forecast the future bumped
into a reporter a few days after
Health-Education-Welfare Secre-
tary Ribicoff told car makers to put
an air-pollution control device on
cars by 1964 or face the threat of
Congressional control.

"What's new?" the reporter
asked.

The car company executive
smiled, then quipped, "You can
say I was the first to predict that all
1964 models will carry an anti-smog
device as standard equipment."

Curtice Guess—7,000,000

Speaking of predictions, Harlow
Curtice, former president of Gen-
eral Motors and long a free man
with a forecast, offers the first esti-
mate of the size of the market for

[CONTINUED ON PAGE 156]

Something's missing from this picture....but not this picture

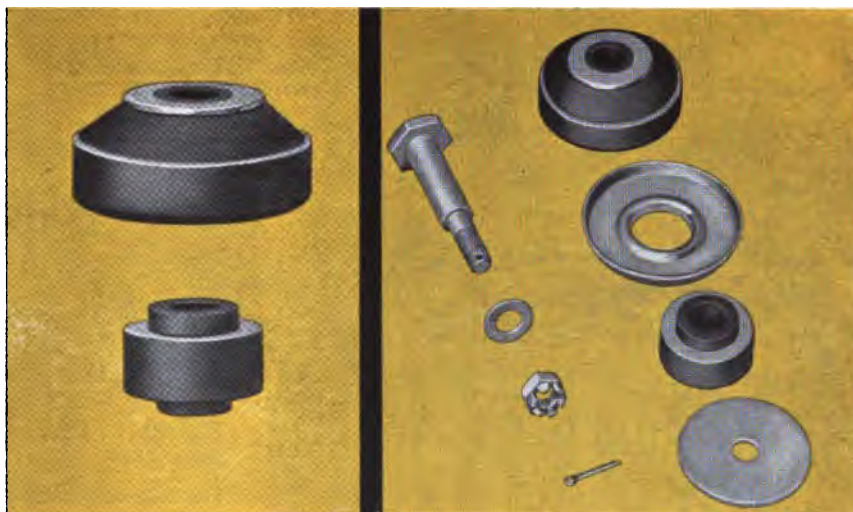


Photo shows the old way of buying
motor mounts—without the fittings.

Photo shows the new way of buying motor mounts
with all the fittings for time saving installations.

NEW! improved plan combines MOTOR MOUNTS with Assembly Kits

Next time you buy motor mounts—play it cool.

Buy the matching Assembly Kits. Doan now offers all the
necessary fittings—bolts, nuts, washers, everything to install
motor mounts. Don't buy one without the other. The cost is
small compared to the savings in time.



DOAN MANUFACTURING

A DIVISION OF ANCHOR INDUSTRIES, INC.

1725 LONDON ROAD — CLEVELAND 12, OHIO

One M^cCORD Muffler job gross you a profit



The illustration depicts a man in a white lab coat and dark tie, leaning over a wooden counter. In the background, a classic car is elevated on a hydraulic lift. A mechanic in overalls stands near the car, holding a large roll of material. In the foreground, a large sign is prominently displayed.

**MCCORD
MUFFLERS
And PIPES
INSTALLED**

**Don't Gamble
Your Life**
*Carbon Monoxide from
Leaky Mufflers Cause
Fatal Accidents*

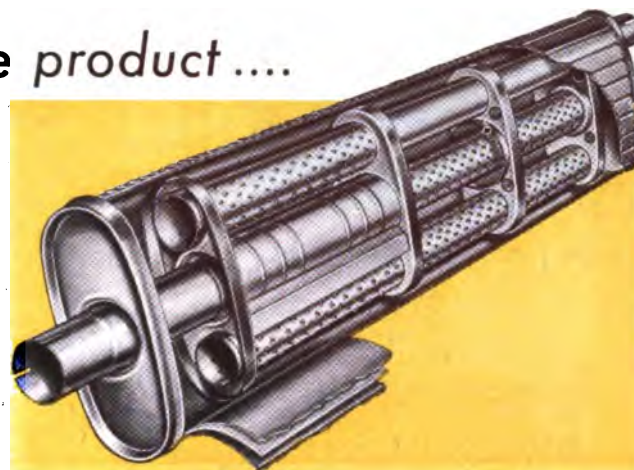
\$10.00 . . . that's your average gross profit on a McCord muffler-pipe-brackets sale. All it takes, then, is *one* such sale a day to boost your overall gross by at least \$3,500 per year. And, mister, you can *easily* manage that, because thousands of alert, aggressive service organizations today are doing that well and better.

And there's no secret to their success. First, it's a matter of simple statistics. There are more than 60 million cars on the road . . . over half of them are potential muffler replacement "prospects." Second, there's the matter of cashing in on this vast, high-profit market and that's simple, too. All you need is: a muffler line car owners want . . . *McCord Mufflers*; special rapid service exhaust system tools . . . *McCord tools*; powerful, traffic-building merchandising . . . *McCord merchandising*. Add your personal salesmanship and watch the muffler service "bucks" roll in!

er day will **EASILY**
of **\$3,500 per year!**

and **McCORD** offers you the *product*

Everything car owners want in a muffler, they get more of with McCord . . . longer life . . . maximum sound absorption . . . minimum back pressure . . . greater safety. Because McCord mufflers offer . . . 40% to 60% heavier, coated steels . . . ribbed, air cushion shells . . . full length asbestos liners . . . "Dri-Shell" design . . . double-locked crimped seams . . . custom engineered "Swept-Flo" sound control . . . longer tubes, larger resonator chambers. These features and more, make McCord easier to sell.



McCORD offers you the *tools* . . .



"15 minute muffler service" . . . that's what car owners demand today. And you can offer it with easy-to-own McCord muffler tools. There's McCord's heavy-duty air gun with cutting and slitting chisels (left) . . . there's McCord's revolutionary new multi-purpose air impact wrench. Both tools are yours for less than cost from your McCord jobber. See him today!

McCORD offers you the *merchandising* . .

With the best mufflers to sell and the finest tools to install them, there's just one "ingredient" missing. And McCord supplies that, too . . . merchandising. "A" boards, wall signs, banners, electric window signs, mobile merchandisers, scales, island displays . . . all these promotional tools and more, McCord makes available to you, to help bring customers into your place of business. Can't wait to get started? You don't have to . . . see your nearby McCord jobber today.



**McCORD
CORPORATION**

DETROIT 11, MICHIGAN

GASKETS • MUFFLERS & PIPES OIL SEALS • RADIATOR CORES

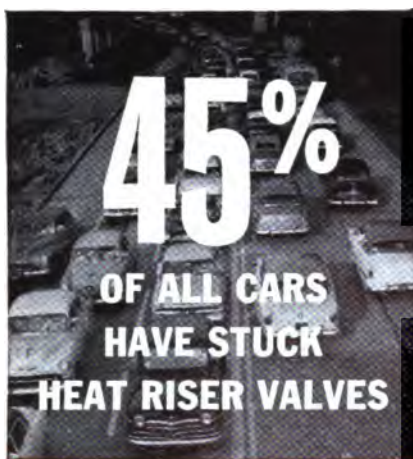
McCORD CORPORATION • Detroit 11, Michigan

Send immediately my copy of McCord's new Muffler "Profits Manual"

NAME _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____



**45%
OF ALL CARS
HAVE STUCK
HEAT RISER VALVES**

AGS

What Detroit Is Thinking

continued from page 153

1962. He figures next year for 7,000,000 cars, including foreign vehicles.

Imperial Leftovers

For several months now, Chrysler has been selling off the fixtures, obsolete machinery and other remnants of the old Imperial plant on Detroit's west side. (Imperial production was transferred crosstown, to an east side site, a couple of years ago.) There's a lot of use left in some of the odds and ends, and business men are invited to tour the plant and bid on things they can use.

Put His Foot in It

A company official was escorting a group of prospects around a few weeks ago when a member of the group spotted a big scale and stepped up to weigh himself. The Chrysler man thought he might enliven the proceedings via the old joke of putting a foot on the scale to make the customer think he had

gained weight. Sneaking up behind the scale, he edged a foot on it.

Pow! The customer spun around in a semi-crouching position and let the company man have it square on the chin, knocking him out. Blowing on his knuckles, a la the toughs in the old gangster movies, One Punch surveyed his victim and walked out of the plant.

The belligerent customer was later identified as a man who has an aversion to people sneaking up behind him. Although he is now engaged in legitimate enterprise, he was once a ringleader of Detroit's notorious "Purple Gang."

The scale is still for sale.

THE END. NOW TURN BACK TO PAGE 46

What Caused This?

Answer to question on page 72

The clue is the heads of the four studs shown in the picture. A three-jaw puller was used to remove this four-stud drum. The drum was removed, sure enough, but was bent and ruined in the process. Once again, it pays to have the proper equipment to do the job.

BARBEE

**RADIATOR
EQUIPMENT
& SUPPLIES**

SINCE 1920

With effortless movements you can place a radiator in any conceivable position.

A great time saver - A man saver - A must for profit. Just one of a complete line of equipment for the radiator service trade.



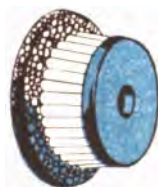
Whatever Your Needs
SUPPLIES • EQUIPMENT
SCHOOLING

Request Catalog and
Price List.
Convenient Terms.

THE BARBEE CO., INC.
P. O. Box 323M, Louisville 1, Ky.

WALKER...

**one of the three
leading suppliers of
oil and gasoline filters
to car and truck
manufacturers**



WALKER MANUFACTURING COMPANY

RACINE, WISCONSIN

what do you mean—"Just as good as Walker?"

EVERY MILE HE DRIVES HE FEEDS HIS "MUFFLER KITTY!"



**THIS EXCLUSIVE DYNAMOMETER
"PROVING GROUND" MAKES
CERTAIN WALKER SILENCERS
NEVER EXCEED PERMITTED
BACK PRESSURES.**

This Walker designed outside chassis dynamometer permits actual on-the-car tests under actual accelerated driving conditions.



Walker "precision tuned" silencers remove power-robbing back pressure ...give engines full built-in perform- ance...save gasoline

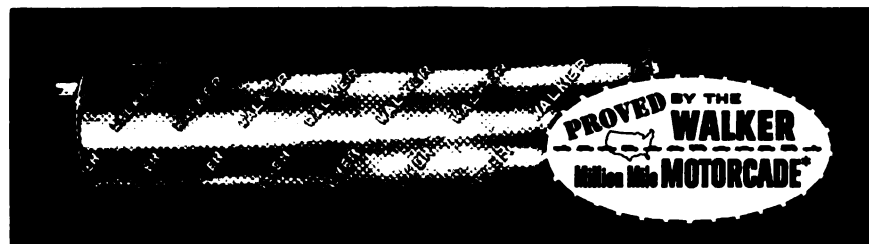


When a muffler is not accurately and scientifically designed . . . "Precision Tuned" . . . for the particular engine on which it is installed, *excessive back pressure* can cost the car owner money. Every mile he drives, he contributes to his "muffler kitty." "Back pressure drag" can result in a loss of up to 45 horsepower . . . reduce acceleration time as much as 60% . . . cause sluggish performance . . . increase gas consumption one gallon in ten. That's quite an extra price to pay for a muffler that is *supposed* to be "just as good as Walker"—but isn't.

Walker "Precision Tuned" Silencers demand no "continuing time payments." Every Walker "Precision Tuned" Silencer is scientifically engineered to meet the exact requirements of each individual engine . . . in back pressure . . . in sound control . . . in long-lived rust protection inside where it counts. Walker "Precision Tuned" Silencers never rob engines of full built-in power . . . never steal gasoline . . . never make a car owner "pay through the nose" for months and months to come.

Being "just as good as Walker" is a fine ambition for anyone to have. It's easy to claim . . . but a bit hard to come by . . . because Walker leadership results from years of designing and building exhaust systems as original equipment for most of America's leading automobiles . . . from "compacts" to "luxuries." It results from the finest research laboratory in the industry . . . and the knowledge of "what-to-do" and "how-to-do-it" that comes only with years of pioneering experience.

Don't ask your customers to "pay extra" for a muffler that is supposed to be "just as good as Walker"—but never is. Install the "original"—a Walker "Precision Tuned" Silencer—that keeps engines at *peak power* and performance . . . always . . . that *saves money* at the gas pump . . . and is engineered to *last as long or longer* than any other muffler made.



WALKER "PRECISION TUNED" SILENCERS

America's most PERFORMANCE PROVED mufflers

LAST LONGER...RUN QUIETER...GIVE ENGINES NEW PERFORMANCE AND GAS ECONOMY

WALKER MARKETING CORPORATION, RACINE, WISCONSIN

"Premium Tire Styling At Low Cost"



PORT-A-WALL TOPPER



Bearfoot's exclusive black and white attachable sidewall gives you new profit opportunities. Your initial order for a 3 set assortment comes in this free, self-contained display. See your jobber now!

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CORPORATION**

AUTOMOTIVE DIVISION • WADSWORTH, OHIO



Here's the new compound that is making friends with thousands of mechanics everywhere. New Copper-Coat is easier to apply . . . gets tacky in 2 minutes . . . holds the heaviest gaskets in place so they will not creep or slide out of alignment.

Copper-Coat's special metallic compound with atomized copper fills surface irregularities . . . improves heat conductivity without gumming shellac. Gives a positive seal . . . easier disassembly!

SEE YOUR JOBBER . . . TRY IT TODAY!

FIRST MULTI-PURPOSE GASKET COMPOUND
K & W PRODUCTS, INC. Whittier, Calif. • Bloomington, Indiana



For Paper, Cork and Metal Gaskets in every automotive application where a gasket compound is used. Especially effective on aluminum. Also ideal as an anti-seize compound for threaded fittings, lug bolts, water hose connections and general assembly work.

sets to full tackiness in 2 minutes!

U.S. Vehicle Sales

January-June, 1961-60

As counted by R. L. Polk and Co.*

Passenger Cars

	Position		Total Retail Sales for First 6 Months		Per Cent of Grand Total of Retail Sales	
	1961	1960	1961	1960	1961	1960
GENERAL MOTORS			1,328,004	1,485,761	49.8	47.3
Chevrolet	1	1	784,103	887,671	29.4	28.3
Pontiac	3	5	179,474	207,911	6.7	6.6
Oldsmobile	5	7	153,719	178,254	5.8	5.7
Buick	7	8	138,402	135,437	5.2	4.3
Cadillac	10	10	72,306	76,488	2.7	2.4
FORD			814,652	874,507	30.5	27.8
Ford	2	2	651,655	725,695	24.4	23.1
Comet	9	12	88,931	55,216	3.3	1.7
Mercury	11	9	58,904	81,702	2.2	2.6
Lincoln	14	14	15,162	11,894	0.6	0.4
CHRYSLER			311,099	481,632	11.6	15.3
Plymouth	6	3	147,938	238,940	5.5	7.6
Dodge	8	6	113,135	193,312	4.2	6.1
Chrysler	12	13	44,592	41,089	1.7	1.3
Imperial	15	15	5,434	8,291	0.2	0.3
AMERICAN MOTORS			173,505	219,232	6.5	7.0
Rambler	4	4	173,505	219,232	6.5	7.0
STUDEBAKER	13	11	36,361	59,013	1.4	1.9
Miscellaneous			4,334	20,311	0.2	0.7
TOTAL			2,667,955	3,140,456		

Trucks

	Total Retail Sales for First 6 Months		Per Cent of Grand Total of Retail Sales	
	1961	1960	1961	1960
CHEVROLET	145,763	167,213	34.7	34.0
FORD	139,363	146,992	33.2	29.9
INT. HARVESTER	50,257	57,998	12.0	11.8
GMC	33,021	41,101	7.7	8.4
DODGE	19,161	22,015	4.6	4.5
WILLYS	13,311	14,529	3.2	3.0
Truck	8,457	9,550	2.0	2.0
Jeep	4,854	4,979	1.2	1.0
WHITE	6,545	7,994	1.6	1.6
MACK	4,360	5,983	1.0	1.2
STUDEBAKER	2,838	2,387	0.7	0.5
DIAMOND T	883	1,423	0.2	0.3
BROCKWAY	412	609	0.1	0.1
Miscellaneous (Domestic and Foreign)	4,120	23,209	1.0	4.7
TOTAL	420,034	491,453		

*Connecticut figures for April, May and June, 1961, not included

Tire Shipments Near Record

According to the Rubber Manufacturers Assn., Inc., manufacturers' shipment of passenger car tires during June amounted to 10,387,736 units, second only to the record month of July, 1950, when 10,399,191 tires were shipped.

Imported Vehicle Sales

10 Leading Makes

January-June 1961-60

As counted by R. L. Polk and Co.*

1961		1960	
Volkswagen	87,904	Volkswagen	76,040
Renault	19,860	Renault	38,247
Fiat	6,583	Opel	15,497
English Ford	5,914	English Ford	15,132
Mercedes Benz	5,890	Fiat	12,366
Triumph	5,251	Triumph	8,956
Volvo	5,075	Austin-Healey	8,867
Opel	4,913	Simca	8,519
Austin-Healey	4,536	M. G.	7,445
Metropolitan	4,423	Peugeot	7,135
All others (68 makes)	38,728	All others (67 makes)	68,760
TOTAL	189,077	TOTAL	266,964

*Connecticut figures for April, May, June, 1961, not included

Dealers Show First Half Profit

An upturn in car sales in the second quarter helped put most automobile dealers in the black for the first half of 1961. Of all dealers reporting to the National Automobile Dealers Assn., 20.3 per cent showed some loss for the six months. At the end of the first quarter, however, 39.3 per cent were in the red.

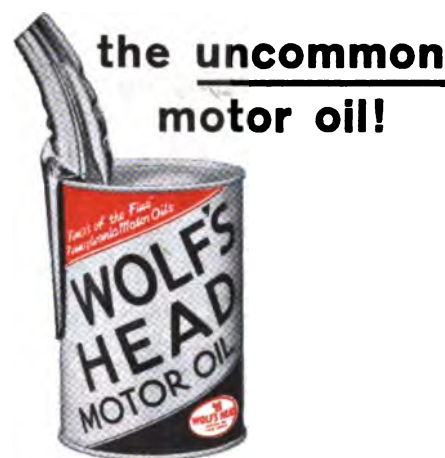
From an over-all loss of .2 per cent of sales at the end of March, combined operating profits for the first six months rose to .9 per cent of sales, or \$45 per new car sold.

The average selling price of used vehicles rose to \$758 in the six months period—the first increase recorded in any quarter since the last quarter of 1959. Used car stocks had been reduced from 42.3 days' on Mar. 30 to 36.8 days' supply on June 30.

Can You Name It?



The first product to bear one of the best-known names in the industry, this touring car sold for \$1,335. Its 201 cu. in. engine had a seven-bearing crankshaft, said to be machined all over. While most engines of the period developed their maximum horsepower at about 2,500 rpm, this L-head 6 put out 70 hp at 3,500 rpm, giving the 2,740 lb. car a top speed of over 70 mph. Do you know the make and year? Answer on page 215.



Motorists who *care* for their cars . . . and servicemen who *care* for their customers . . . agree that WOLF'S HEAD Oil is truly the finest of the fine. There's a reason—WOLF'S HEAD is 100% Pure Pennsylvania, Tri-Ex refined three important *extra* steps and scientifically fortified for the finest engine protection. The result is *uncommon* lubrication . . . *uncommonly* low operating and upkeep costs . . . truly *uncommon* quality. That's why many motorists who *care* for their cars insist on WOLF'S HEAD. Keep your customers coming back with WOLF'S HEAD . . . the motor oil that commands *uncommon* customer loyalty the country over.

WOLF'S HEAD OIL REFINING CO.
OIL CITY, PA.

Changes Numerous In Chrysler Corp Cars

continued from page 53

shifting device used on the larger Chrysler cars in 1961 is now used on all models.

Battery ampere-hour ratings are reduced, and the battery is lighter. The alternator and reduction-gear starter make this change possible with no loss of output efficiency. Molded-in recessed shelves near the bottom of the battery case permit

the use of simple clamps and eliminate the top-clamping arrangement which was subject to corrosion.

Changes have also been made in the ignition system. The Chrysler-built distributor, now used on all models, has larger contacts. A hole in the center of the stationary contact provides ventilation and increases contact life. A new condenser reduces arcing.

Neoprene nipples are now used on the high-tension leads to provide a better moisture seal. A new

neoprene vacuum line to the distributor is easier to remove. On 6 cyl. engines, spark plug covers have been made thicker in an effort to improve wet starting.

A new, lightweight automatic transmission is used on Plymouth, Dodge, Chrysler and Imperial V-8's. The new drive, completely different in construction from the TorqueFlite used since 1957, is similar to the unit used since 1960 on the Valiant. It has three forward speeds, ratios are the same as in the TorqueFlite, and the control functions are similar.

The converter is driven by a flexible drive plate attached to the crankshaft, with the front pump driven directly off the impeller hub. A one-piece die-cast aluminum housing encloses the converter and transmission assembly. A parking sprag on Plymouth and Dodge locks the output shaft to the extension housing.

New Gearshift

All 1962 manual transmission cars except Chrysler have a new gearshift mechanism. The new shift uses a hollow tube inside the steering column jacket, and concentric with the steering wheel shaft, to transmit shift motion to the linkage under the car. The shift tube is supported by acetal-resin bearings which require lubrication only at 32,000 mile intervals.

The rear axle housing on Plymouth and Dodge is narrower for 1962 and larger diameter axle shafts add stiffness and are said to increase bearing life. Rear axle ratio on Plymouth and Dodge 6's with automatic transmission has been reduced from 3.31 to 2.93. On these cars with V-8 engines and automatic transmission the ratio on 1962's will be 2.76.

Servo-Contact Brakes

Brakes on the 1962 Plymouth and Dodge are of the servo-contact design used last year on Valiant and Lancer, and are equipped with self-adjusters. Rear-wheel parking brakes are now used on Plymouth and Dodge, as well as on Valiant and Lancer. A new vacuum-suspended power brake is used on Plymouth, Dodge, Chrysler and Imperial. The new unit is tandem-mounted between the ped-

[CONTINUED ON PAGE 164]



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SHOP TOOL**
any mechanic ever had



Two-Plunger Frame Pick-Up Lift

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- Shop can handle more volume, increase your profits
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CITY _____ ZONE _____ STATE _____

GET THERE IN HOURS...AND COSTS YOU LESS!

Changes Numerous In Chrysler Corp Cars

continued from page 162

al linkage and master cylinder, eliminating intermediate adjustments, and making access to the fluid reservoir easier. All cars are now equipped with a mechanical stoplight switch.

A new manual steering gear, of the recirculating ball type, is used on Valiant, Lancer, Plymouth and Dodge. Gear ratio is 24 to 1. The

cross shafts on Plymouth and Dodge units have needle bearings; bushings are used on Valiant and Lancer.

A ball-and-trunnion universal of new design couples the shaft to the gear. The joint is prelubricated, sealed, and requires no maintenance. The gear is now mounted on the K-shaped engine support crossmember, instead of on the side rail.

The trailing pitman-arm linkage design introduced on the 1960 Valiant is now installed on Plymouth

and Dodge for easier parking. Idler arm bushings are nylon, replacing 1961's rubber type.

Changes made in Plymouth and Dodge front-end geometry, it is claimed, soften the ride since there is said to be less change in camber and caster when the cars go over bumps.

Shock absorber mounting on these two cars is changed from the cantilever type to a straddle type. Upper bushings on the front shock absorbers are softer on all cars. Two-ply rayon cord tires are used on Valiant and Lancer.

Lubrication fittings on all cars are replaced by plugs on front-suspension ball joints, steering linkage connections, and clutch torque shaft bushings. The plugs are removed to relubricate these points at 32,000-mile periods.

Completely Unitized

The new body on Plymouth and Dodge is completely unitized. On 1961 cars, a frame ahead of the cowl was bolted on. The 1962 models have bolted on fenders for easier replacement. Corrosion resistance of all bodies in the Plymouth and Dodge lines, including Valiant and Lancer, is said to be improved through the use of galvanized steel for body side sill members. New door hinges on Plymouth and Dart have torsion-bar type check straps, with intermediate and full-check positions.

A new heating and ventilating system for Plymouth, Dart and the Polara 500 gives forced-air ventilation for hot weather comfort. An axial flow blower, said to be the first used in the industry, delivers up to 240 cu. ft. of air per minute even when the car is stationary.

THE END. NOW TURN BACK TO PAGE 54

Must Drop Claims Of Gas Economy

In an agreement signed with the Federal Trade Commission, Standard-Triumph Motor Co., Inc., New York, stipulates that it will no longer claim that its Triumph Herald model will give up to 40 mpg at 70 to 80 mph. It further agrees not to represent the gas mileage of any of its cars unless the claim accords with the facts.

Profit Tips from



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For servicing needs, for profitable re-sale to car and home owners, DOR-TITE is a product every service station and garage should stock and display. It has hundreds of automotive and household uses . . . for weatherstripping, sealing, protecting, insulating, cushioning, silencing. Made of soft, resilient sponge rubber, DOR-TITE installs easily. Has factory-applied self-activating adhesive—no messy solvents needed. Stays put once applied—no stretching or creeping—exclusive fabric backing. Comes in black and off-white and in all popular sizes.

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'THE DESERT IS NO PLACE FOR SISSY BEARINGS'

There's plenty of difference in engine bearings—and the difference shows up on the highway that runs past my shop. I tow in lots of cars with bearings that couldn't take the high speed driving and trying pan heat of that desert highway."

Yes, there *is* a big difference in bearings. Michigan Engine Bearings stay on the job under long, sustained turnpike trips, desert driving and other conditions that make some bearings look like "sissies." The reason is this: all materials for Michigan Bearings are specially chosen and carefully protecto-treated

for maximum fatigue strength, high thermal conductivity, corrosion and oxidation resistance, superior embeddability and surface action. They're machined to tolerances as close as .000125 plus or minus . . . fit perfectly at every point.

Michigan Engine Bearings are made by Detroit Aluminum and Brass Corporation—for over 35 years a principal supplier of original equipment bearings for leading automobiles, trucks, buses and farm equipment.

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Michigan
ENGINE BEARINGS





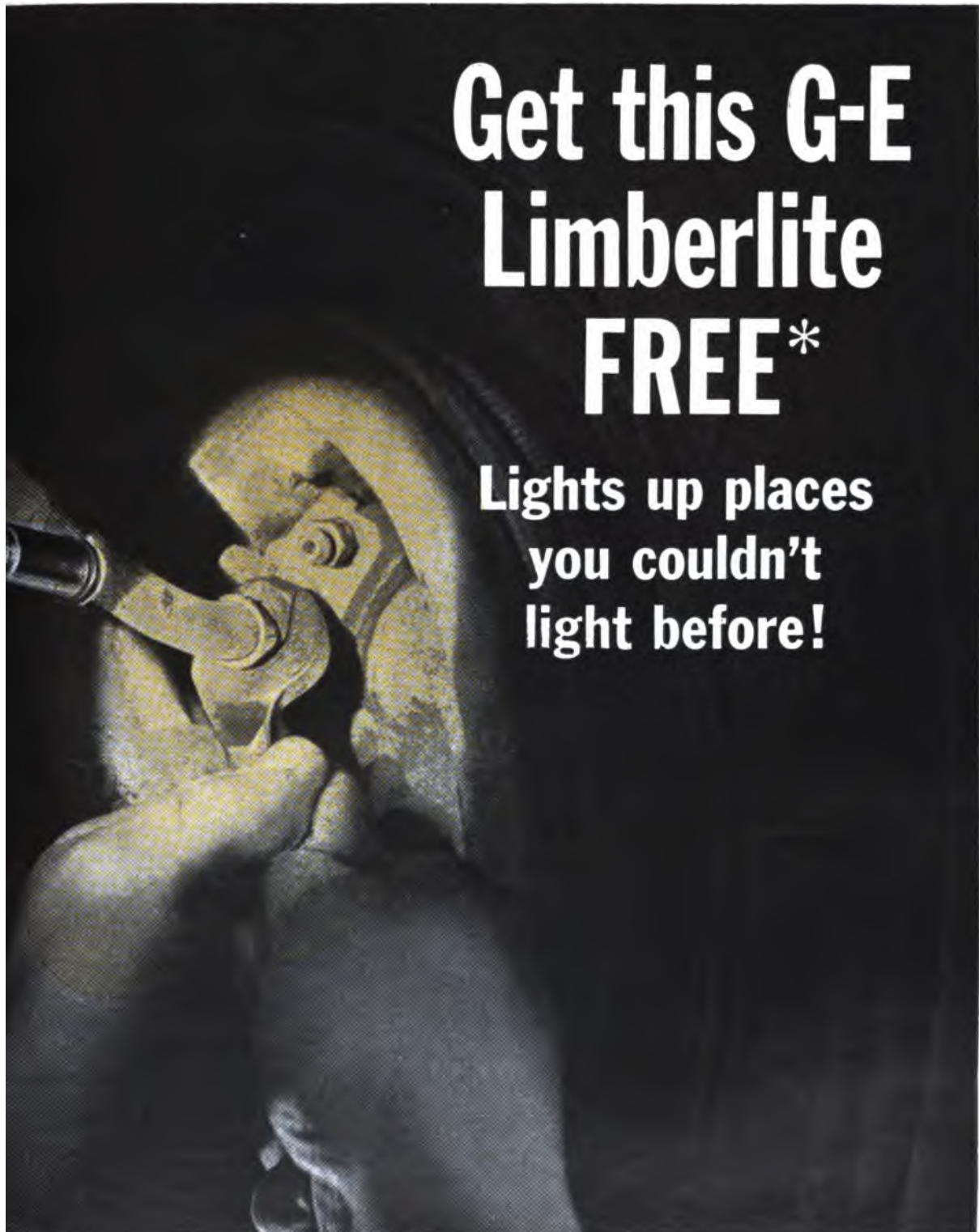
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Progress Is Our Most Important Product

GENERAL  ELECTRIC

Do Dealers Need Big Brother?

continued from page 50

"Which country did you like best?"

"It was a toss-up between Norway and Denmark. Wonderful people."

"You didn't like the Swedes?" asked Cap.

"They've been getting so rich they've forgotten how to smile. As a matter of fact, though, I had

more direct contact with Swedes than anybody else. It was kind of a busman's holiday.

"I had introductions to several automobile dealers in Stockholm. Some American dealers I know had been over there and came back with such glowing tales I got the idea it was a kind of car dealer's paradise."

"So you wanted to make reservations?"

"Not exactly," said Black. "But you see I'm a dirty pessimist at heart and I thought there must be

a gimmick. I wanted to find it, if I could."

The waitress placed the drinks before them. "Skoal!" said Cap, raising his glass. Black took a long sip and set down his glass. "That's worth coming home for."

"You've got my curiosity aroused," said Cap. "I've read articles now and then about the way Sweden has licked its economic problems but I wasn't aware that dealer headaches were among them."

"The thing I heard talked about so much," said Black, "was what we call territory security. Every dealer has a closed area and only he can sell cars within its bounds. So, these American dealers ask, if they can do it in Sweden, why can't we?"

"I think I know the answer, but I'd like to know what you observed."

Black laughed. "The main reason we can't do it," he said, "is that we're Americans and not Europeans. Over there, no one sees anything particularly wrong with the cartel system of whacking up markets. We call it restraint of trade."

[CONTINUED ON PAGE 177]



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Subscription Dept.
250 West 55th St.
New York 19, N. Y.

dealers Need rother?

d from page 168

s closed territory work for
dealers?"

finished his drink. "Yes
," he said. "Swedes own
relatively than any other
in Europe, including Great

Something like one out of
even has his own car. You
all that an achievement but
got to remember that they
have the highest standard
g of any European people
including the West Ger-
They can afford to buy cars.
the other hand, they're far
America where every third
owns a car. And they're
hind Canada and Australia
w Zealand.

be if Swedish dealers didn't
osed territories and had to
rder, they'd sell more cars."
their profits must be satis-
as things are," said Cap.
arently so."

picked up a menu. "Then I
," he said, "you could say
aternalistic, Socialistic form
rnment does help dealers."
ou were so minded," said
'you could. At least, you'd
eing with the female guide
rubberneck tour my wife
took. She gave us a fancy
n the blessings of Social De-
n. But me, I don't want any
it."

ing a little profit," said
ould be a welcome change
hat we've been through the
eral months."

ted. But one point these
riends of mine overlooked.
ime you ask government to
ething for you, you've got to
something in exchange.
is so-called Middle Way of
is no different. Dealers
ere give up a good deal in
of freedom.

n't actually so bad for those
in business as it is for any-
o might want to get in. I
ome American dealers who
like to keep anybody else
opening a salesroom but, at
we're a competitive peo-

"I suppose all territories over
there are already allocated," said
Cap, "and there's no chance for a
newcomer."

"Worse than that. If you want to
start a new business of any kind,
you have to get the nod of the
town fathers. They call in all the
men already operating a similar
business and ask them if the town
needs another one. I'll give you a
guess as to the verdict."

"That's all I'd need," said Cap.

"Then, on top of all that, mov-
ing around is extremely difficult

because of the housing shortage.
Some critics have been unkind
enough to say this is an artificial
shortage, created to keep people
from moving to town or from one
town to another. It is an incon-
venience we wouldn't put up with.
It's too much like having Big
Brother look after us.

"Finally," said Black, "this gov-
ernment-nursed type of enterprise
leads to other abuses, or so I was
told. There isn't any competition
to fear so the tendency is to relax

[CONTINUED ON PAGE 180]

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*There's no business like Chevrolet business . . .
make your Chevy dealer your partner in service!*

Do Dealers Need Big Brother?

continued from page 177

and, after a while, a dealer gets to feeling he has a vested interest in the trade.

"He knows he's going to eat no matter what happens, so he isn't so much interested in looking for talent to put on the payroll as he is in locating relatives.

"One of the constant gripes I heard in place after place I visited

was about nepotism. What is the use of doing a bang-up job? workers wanted to know. If there's a better job to fill, the boss's son-in-law or even his cousin will get it.

"I had a brother-in-law on my payroll once and he almost ruined me."

"I'd be safe then," said Cap, "in quoting you to the effect that you'd rather scratch for your profits under our system with all its tensions and anxieties than coast to profit security under Social Democrats."

"I think that would be a correct

summation," said Black thoughtfully. "Understand, the benefits the Swedish dealers enjoy look as appetizing to me as to any other American dealer who's been over there. But I'm not so stupid that I don't realize I'd have to give up some of my liberty to get them.

"And, when I look around this jittery world of ours today, I can't help feeling that there isn't any other privilege half so precious as individual liberty."

—Edward Ford

Next month—Cap tells when to look for salesmen.

NOW TURN BACK TO PAGE 51



Makers of quality imported cars specify Lucas products as original equipment. To insure customer good will always replace Lucas with Lucas. A Lucas representative will be glad to help you plan a basic inventory.



United States Factory Branches

LUCAS ELECTRICAL SERVICES, INC.

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LAMPS • DISTRIBUTORS • GENERATORS
COILS • HORNS • REGULATORS • STARTERS
WINDSHIELD WIPERS • BATTERIES • CIRCUITS
BRAKES AND SHOCK ABSORBERS

Chevrolet Truck Diesel



Diesel engine installed in medium-duty Chevrolet

Diesel power is available for the first time in Chevrolet trucks with the addition of a 4 cyl. General Motors Diesel engine as optional equipment in 1962 medium-duty and heavy-duty models. Two new gasoline V-8's of 327 and 409 cu. in. bring the total number of powerplants to eight.

The two-stroke Diesel has a displacement of 212 cu. in. and develops 130 hp at 2,800 rpm. It is available in trucks ranging from 15,000 to 23,000 lb. gross vehicle weight. Alternators are standard on Diesel-powered models and optional with gasoline engines.

The new 327 cu. in. V-8 develops 185 hp at 4,400 rpm, while the 409 cu. in. powerplant puts out 252 hp at 4,000 rpm. A 261 cu. in., 150 hp 6 cyl. engine is offered for the first time in light and medium trucks.

In most models, single headlights have replaced duals to cut replacement costs.

MOTOR, September 1961

Dodges Shorter

1 from page 54

is conventional and the ad-
t can now be made from
ne compartment. New en-
ounts are used and the
s moved forward and down
Dart to reduce tunnel

25 cu. in. engine with cast-
ck is standard on all Dart
except the Dart 330 nine-
r wagon, and Dart 440
r hardtop, convertible and
On these exceptions, the
in. V-8 is standard. Op-
ngines for the Dart are a
version of the 318 cu. in.
with four-barrel carburetor
d exhausts, and a 305 hp
in. V-8 with special cam-
al exhaust and four-barrel
or.

Aluminum Block Optional

Standard powerplant for the
is the same 170 cu. in. en-
ast year. The 225 cu. in. 6
ne, 45 lb. lighter, because
k is aluminum, is optional.
305 hp engine is standard
Polara 500.

are many changes, apply-
ll models, in the electrical
ents. A smaller, lighter
with a reduction gear and
shift is used. The battery
er and held in place by
which engage special mold-
cesses near the bottom of
ery case.

Distributor has larger con-
its and the stationary point
le in its center for ventila-
r easier servicing, a new
isconnect is located on the
ide of the firewall and a
e block on the passenger
ment side.

New Turn Signal

v, all-plastic turn signal is
n extended cap over the
p filament controls glare
mechanical-type stoplight
installed on all models. A
circuit is used on the Lan-
uments panel.

r, more compact and light-
natic transmission is used
engines, replacing the
lite used since 1957. The
r is attached to a flexible
[CONTINUED ON PAGE 184]

MAJOR DATA

	Lancer 6 Cyl.	Dart 6 Cyl.	Dart V-8	Polara V-8
Displacement	170 cu. in.	225 cu. in.*	318 cu. in.	361 cu. in.▲
Bore and stroke	3.4 x 3.125 in.	3.4 x 4.125 in.	3.91 x 3.31 in.	4.12 x 3.38 in.
Horsepower	101 @ 4,400	145 @ 4,000	230 @ 4,400	305 @ 4,800
Torque	155 @ 2,400	215 @ 2,800	340 @ 2,400	395 @ 3,000
Compression ratio	8.2 to 1	8.2 to 1	9 to 1	9 to 1
Wheelbase	106.5 in.	116 in.	116 in.	116 in.
Over-all length	188.8 in.	202 in.●	202 in.●	202 in.
Height	53.4 in.+	53.7 in.†	54.1 in.‡	54 in.

* Optional on Lancer

+ 52.7 in. on station wagon

● 209.9 in. on station wagon

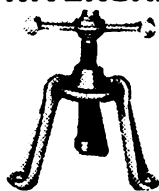
† 53.9 in. on station wagon

▲ Optional on Dart

DURO offers a complete line of PULLERS

The complete range of quality auto repair tools made by DURO includes:

UNIVERSAL HUB PULLER



Three sliding puller arms quickly and easily adjust to fit the hub. The unique design of the arms provide for a straight pull on all size bolt circles up to 8". To prevent damage to the axle or puller screw, the contact end of the screw is fitted with a floating cap which centers on the axle. Chrome alloy steel construction provides ruggedness and durability. Chrome plated.

NO. 248 UNIVERSAL HUB PULLER

STEERING WHEEL PULLER

Uses any standard cap screw—insert thru puller head to engage part to be pulled. While specifically designed to remove steering wheels on cars and trucks, this tool can also be used as a two or three way puller to remove pulleys, flanges, outboard engine flywheels, etc.

NO. 254 STEERING WHEEL PULLER

NO. 254-4 Adaptor for Chrysler, DeSoto and Plymouth

NO. 254-5 Adaptor for Buick, 1955-59



UNIVERSAL HUB PULLER SET



Assembly of either a two arm or three arm hub puller is quickly and easily accomplished with this universal hub puller set. Use as a two arm puller on wheels having 4, 6 or 8 studs. Use as a three arm puller on wheels having 5 studs.

NO. 260X UNIVERSAL HUB PULLER SET

IMPROVED TYPE LIGHT DUTY GEAR PULLERS

Cone which controls the spread of the arms operates independently of the puller screw. Allows firm clamping of the jaws without the locking or binding effect upon the screw found in cheaper type pullers. Quick action pins provides easy changing of arms. Forged arms, other parts accurately machined, fully chrome plated.

NO. 2362 2 1/4" GEAR PULLER

NO. 2363 3 1/2" GEAR PULLER

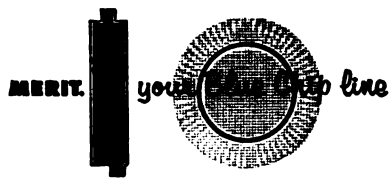


DURO METAL PRODUCTS CO.

2649 N. Kildare Avenue

Chicago 39, Illinois

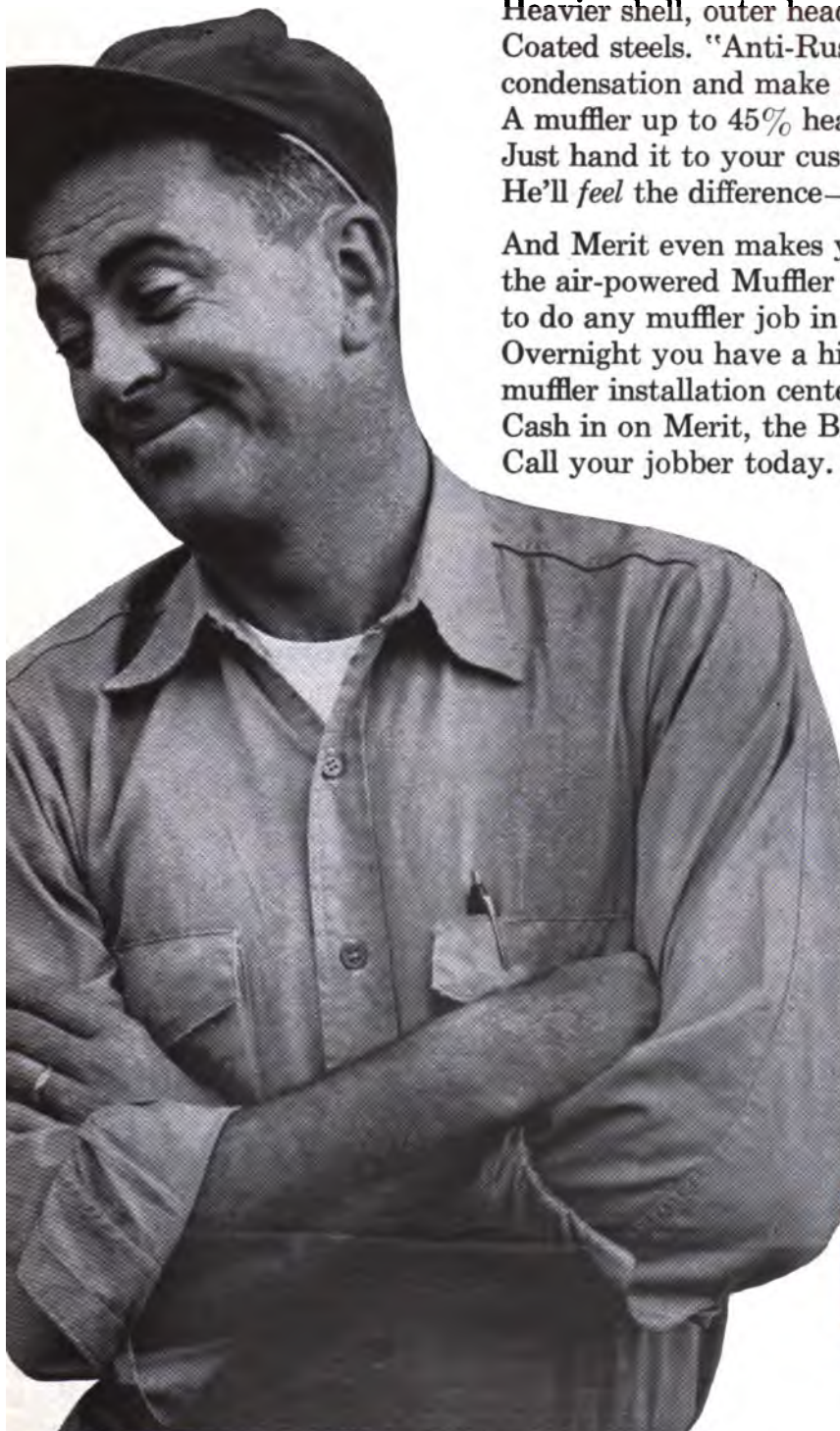
Also makers of nationally advertised DURO Power Tools



Selling mufflers is easy-



you're selling MERIT



And it's easy to see why.

Heavier shell, outer heads and inner parts.

Coated steels. "Anti-Rust" internal design—to cut condensation and make Merit last longer.

A muffler up to 45% heavier.

Just hand it to your customer.

He'll *feel* the difference—and buy!

And Merit even makes your *work* easier—the air-powered Muffler Cutter enables you to do any muffler job in 15 minutes.

Overnight you have a high-speed muffler installation center!

Cash in on Merit, the Blue Chip line.

Call your jobber today.

MERIT

MUFFLERS AND PIPES

Dept. 18-J, 619 Smith St., Toledo 1, Ohio

Two Dodges Shorter

continued from page 181

drive plate and the front pump is driven directly by the impeller hub. A sprag now locks the transmission when parked. The gearshift is mounted on the steering column on 1962 Lancers with manual transmission. The 1962 TorqueFlite for the 6 cyl. engine is smaller, lighter and similar in design to the new V-8 transmission.

A new steering gear, of the re-

circulating ball type, is used on all models. Needle bearings are used in the cross shaft on Dart, and bushings on Lancer.

Self-adjusting brakes are standard on the Dart and Polara 500. The parking brake is now in the rear drums, eliminating the drive-shaft brake, on all models. An improved power brake is used. The Lancer has two-ply rayon cord tires.

The rear axle ratio on Lancer with 225 cu. in. engine and automatic transmission is changed from

3.23 to 2.93 to 1. Darts with automatic transmission are reduced to 2.93 to 1 with both the 6 cyl. and V-8 engines.

Lubrication fittings are removed from all points on the front suspension ball joints, steering linkage and clutch torque shaft bushings. Plugs can be removed for lubricating these points at 32,000 mile periods.

The Dart body is now an all-welded unit. The only bolted-on components are a K-shaped member which supports the engine and part of the front suspension, and the front fenders. New type door hinges, using torsion bars, have intermediate and full hold positions. A new hood lock is actuated from the outside.

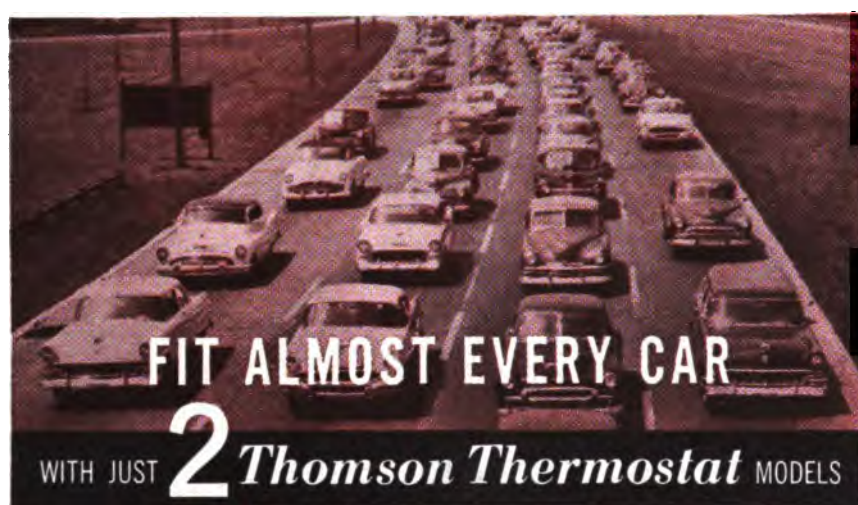
Models Offered

The regular Dart series includes two- and four-door sedans and a six-passenger station wagon. The Dart 330 series consists of a two- and four-door sedan, two-door hardtop, and six- and nine-passenger wagons. The Dart 440 series offer a four-door sedan, two- and four-door hardtops, a convertible, and six- and nine-passenger station wagons.

Seven models, one more than last year, are offered in the compact Lancer line. These include two- and four-door sedans and a four-door station wagon in both the 170 and 770 series. The Grand Turismo is a two-door sports hardtop. Principal body changes include a new grille and instrument cluster.

The Polara 500 series, offers a luxury two-door hardtop and a convertible.

THE END. NOW TURN BACK TO PAGE 55



FIT ALMOST EVERY CAR

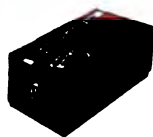
WITH JUST **2** Thomson Thermostat MODELS



YOU MAKE MONEY with NO INVENTORY PROBLEMS

EYECATCHING 16-THERMOSTAT DISPLAY CONTAINS JUST 2 DIFFERENT NUMBERS. PUT IT ON YOUR COUNTER. HANG IT ON THE WALL. AND PICK UP THERMOSTAT PROFITS THE EASY WAY.

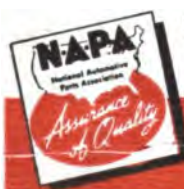
- Designed by automotive engineers for new cars and replacement use.
- Self-cleaning poppet valve for trouble-free long life.
- Positive seal for faster engine warm-up, top heater efficiency.
- Engineered for newest high pressure cooling systems.
- Accurately calibrated for instant response at correct temperature.
- All brass and stainless steel corrosion-proof construction.



ASK TO SEE your jobber salesman's Thermostat Demonstration Kit... see actual working parts in operation.

Easy-to-understand brochure "Let's Talk Thermostats." Packed with valuable tips and illustrations for everyone who sells or installs thermostats. Helps boost thermostat sales. Send for your free-copy.

FREE!



LEARN MORE ABOUT THERMOSTATS AND COOLING SYSTEMS!

A PRODUCT OF
STANDARD-THOMSON CORPORATION
Waltham 24, Mass.

Specialists in Thermostats Control for 25 years.

Standard-Thomson Corp. Dept. CT9.
152 Grove Street, Waltham 24, Mass.

Yes, I'd like a copy of your free brochure "Let's Talk Thermostats."

Name.....
Company.....
Street.....
City.....Zone.....State.....

Gorman Changes Jobs

James A. Gorman, who has been executive vice president of the Missouri Automobile Dealers Assn., will join the Motor Car Dealers Assn. of Southern California and the Los Angeles Motor Car Dealers Assn. in same capacity on Jan. 1.

Gorman succeeds Charles H. Elmendorf, who has served the two California groups for 30 years. He will continue as consultant. Gorman had been with the Missouri group since 1950.



says L. D. Eaker, Eaker Motor Service,
Shawnee Mission, Kansas



"We have been selling Gates V-Belts for 13 years, and have found them to be one of the most profitable TBA items we carry.

"There's no secret about our big turnover...we simply check the belt *every* time a hood is raised. And, if an immediate replacement isn't indicated, we recommend carrying a spare...with the understanding that if the belt isn't used before the car is traded, we'll swap it for the proper type and size for the new car.

"As distributors for two different air conditioners, we also sell annually several hundred Gates Air Conditioner Belts.

"Gates station-tested sales aids make our job of finding and installing the proper belt a very simple matter."

"GO" Gates for profit...
Call your Gates Jobber Today!

Your Gates Supplier will have a factory-trained Gates Representative install attractive belt and hose displays, clean up your belt and hose stocks, and supply you with a complete set of station-tested Gates Sales Aids. He'll also help you get your present stock in shape for top profits—and you won't lose a penny!

The Gates Rubber Co.
Denver, Colorado



World's Largest Maker
of V-Belts

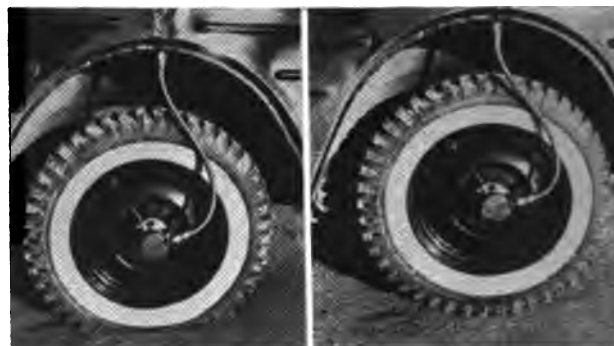


Gates Vulco V-Belts and Hose

Neapco Universal Joints And Parts



Inflation on the Run



Tire partially deflated, left, for travel in sand. At right, tire has been inflated again

With a new central air-control system recently tested on Army vehicles, it is possible to inflate or deflate pneumatic tires while the vehicle is in motion.

For better traction in mud or sand, tires can be deflated at the turn of a knob. Back on firm ground, the tires can be inflated again by means of an air compressor contained in the vehicle.

Air is supplied to the tires through a rotating joint at each wheel hub. An armored hose absorbs wheel jounce and rebound. System was developed by A. Schrader's Son.

Tempest Offers Convertible

continued from page 68

undergone modification to improve ride and handling. Construction of the insulator bushing of the front-suspension upper control arm has been revised to provide a softer ride.

The vehicle's flexible driveshaft is identical with last year but the new type rubber-mounted propeller-shaft damper bearings have eliminated the need for retainers and clamp bolts.

Chassis changes include new upper ball joints (said to be more durable than 1961's counterpart), strengthening of brake shoes by increasing flange length and a different design for the engine mount to restrict any forward movement of the engine.

In addition to the new convertible coupe, the car is available in a four-door sedan, four-door station wagon, two-door coupe and two-door sports coupe.



WELD-BUILT BODY CO., INC.
5903 PRESTON COURT, BROOKLYN 34, N.Y.

*Manufacturers of the Largest Selection of
Power Wreckers and Wrecker-Accessories*

MAJOR DATA

	4 cyl.	V-8
Displacement	194.5 cu. in.	215 cu. in.
Bore and stroke	4.06 x 3.75 in.	3.50 x 2.80 in.
Horsepower	110 @ 3,800*	185 @ 4,800
Torque	190 @ 2,000*	230 @ 2,800
Compression ratio	8.6 to 1	10.25 to 1
Wheelbase	112 in.	112 in.
Over-all length	189.3 in.	189.3 in.
Height	53.5 in.	53.5 in.

*With manual transmission. 115 hp @ 4,000 rpm and 195 lb.-ft. torque at 2,200 with automatic

THE END. NOW TURN BACK TO PAGE 69

Winter Get-Ready

continued from page 59

a few, there are loss of coolant, defective thermostat, loose or glazed fan belt, clogging of radiator or cylinder-head passages, worn water pump.

Leaks are often easy to find. Mostly they occur in the radiator and its connections and are revealed by damp spots and rust streaks.

In addition, it is always wise to make a pressure test. Attach a tester to the radiator filler neck and apply enough air to equal the pressure at which the system was designed to operate. If the system holds the pressure for 2 min., it can be considered leak-free. If it fails, the rate of drop will reveal whether the leak be small or large.

Where to Look

The leak may be found, as already mentioned, in the radiator, in the hose connections or in the hose itself. It may be traced to a defective head gasket. In this case, it will lead to dilution of the engine oil and resulting damage to working parts. If the car has a water heater, do not overlook this unit as the site of possible cracks and leaks.

In connection with the pressure test, it is smart to check the pressure cap, not only to see that there is no binding of the relief valve, which would permit too high a build-up of pressure, but also to make sure the proper cap is used.

What Numbers Mean

On systems designed for 3½ to 4½ lb., the figure "4" appears on the cap. On 6½ to 8 lb. systems, the distinguishing mark is "7." For 12 to 15 lb. systems, look for the number "13." It should always be remembered that, as pressure rises, the boiling point rises with it and overheating can go undetected by the car owner until serious damage has been done.

Thermostats can cause overheating if they stick closed. On the other hand, if they open too soon, the result will be a failure of the engine to reach proper operating temperature or to warm up fast enough. Low-temperature operation can cause sludge to form in

the lubrication system. A shop cannot afford to remove the thermostats on every car it is preparing for winter but, any time there is reasonable suspicion of this unit, it should be tested to make sure it opens and closes at the prescribed temperatures.

Any evidence of rust in the system calls for thorough flushing before antifreeze is installed. If neglected, this will inevitably lead to clogging somewhere in the radiator or engine passages. If rust is present in any quantity, some of it

will be noticeable in the filler neck.

Air or exhaust gas leaking into the system is easy to spot. It shows up as foaming or overflow.


If the water in the filler neck surges under rapid acceleration, you can be sure the system is clogged somewhere. Sometimes reverse flushing will lick the condition, but it is well to bear in mind at least one car company frowns on reverse flushing of the block, through fear of damaging the water pump. Should flushing fail,

[CONTINUED ON PAGE 188]

Why Wait? Start Now To P&D-IZE

with the seven BIG features developed by your wholesaler and P & D to help you get, and keep, a profitable ignition tune-up business! The P & D-ize program, unique in the industry because it covers all the points you need—

- ① One stop tune-up service
- ② Finest equipment, plus schools, clinics, etc.
- ③ 100% P & D parts warranty
- ④ Tune-up manuals
- ⑤ All year service from your wholesaler and P & D field men
- ⑥ Complete line of genuine P & D parts backed up by sound productive merchandising and advertising aid
- ⑦ P & D's "Technical Bible" on automotive ignition



There's more profit in ignition tune-ups. There's most profit in the P & D-ize program. Ask your wholesaler, or write us.

P&D MANUFACTURING CO., INC.
STARTING - LIGHTING - IGNITION
19-02 STEINWAY ST., LONG ISLAND CITY 5, N. Y.
Export Sales: Borg Warner International, 36 So. Wabash Ave., Chicago 3, Ill.

Winter Get-Ready

continued from page 187

boiling out the radiator or rodding it are the remedies left.

Far too many shops make a practice of ignoring the fan belt. In contests run by factories for garages and service stations to boost sales, scores have failed time after time to spot belt defects that would have won them prizes.

Belt condition is essential to correct winter temperature control. If

the belt is stretched, frayed or slick, it fails to turn the fan at the necessary speed. Tension should always be checked, even if only with the finger. A deflection of 1/2 in. on a short belt, 1 in. on a long one, is considered the maximum.

Completion of these checks and tests, plus the service they show to be necessary, is a certain road to customer satisfaction and higher profits for the shop. Cooling service is easy to sell but it takes careful work to keep customers sold.

THE END. NOW TURN BACK TO PAGE 60

Sell TBA for Safety

continued from page 62

overlooked by customers and repairmen is the battery, which probably accounted for the record number of emergency road calls made last winter. A borderline unit can get by in the warm summer months and even during early fall. But, when the temperature plummets, a weak battery's inadequacies become painfully apparent.

Garagemen and station operators can attract prospects this month by offering a free check of customers' tires, tire chains and batteries. Direct mail and newspaper ads can bring this "free safety service" to the attention of customers. Once they come in, the opportunity exists to stress the safety characteristics of these products and to bid, when necessary, for replacement sales.

Creates Opportunities

No doubt about it, the approach of winter creates TBA selling opportunities. But it still is up to the individual shop owner to seize every chance to sell. That means newspaper ads and direct mail pieces, special shop displays and person-to-person pitches to regular customers. All these promotion avenues can be used to remind customers of last year's driving conditions and at the same time advise them to prepare now for winter.

Don't overlook the sales impact of a special display in a prominent location—a display of tire chains, de-icers, wiper blades, batteries and similar items. It can carry a sign reading, "For your winter safety."

Help yourself to profits now and in the months ahead while you help your customers to a safer winter of driving.

THE END. NOW TURN BACK TO PAGE 63

**MORE
VALUE**

**WHEN
YOU
BUY**

**JEEPERS
CREEPERS**

**"MODEL C"
"LIFETIME" CREEPER**

The standard of quality. Practically indestructible. Comfortable plastic-covered headrest. Rolls easily on big 3-inch wheels.

**MODEL "J"
ECONOMY MODEL**

A Sturdy, low-priced lightweight creeper. Comfortable headrest. Big 3-inch wheels for easy rolling, yet very low-slung.

See the complete Jeepers Creepers Line

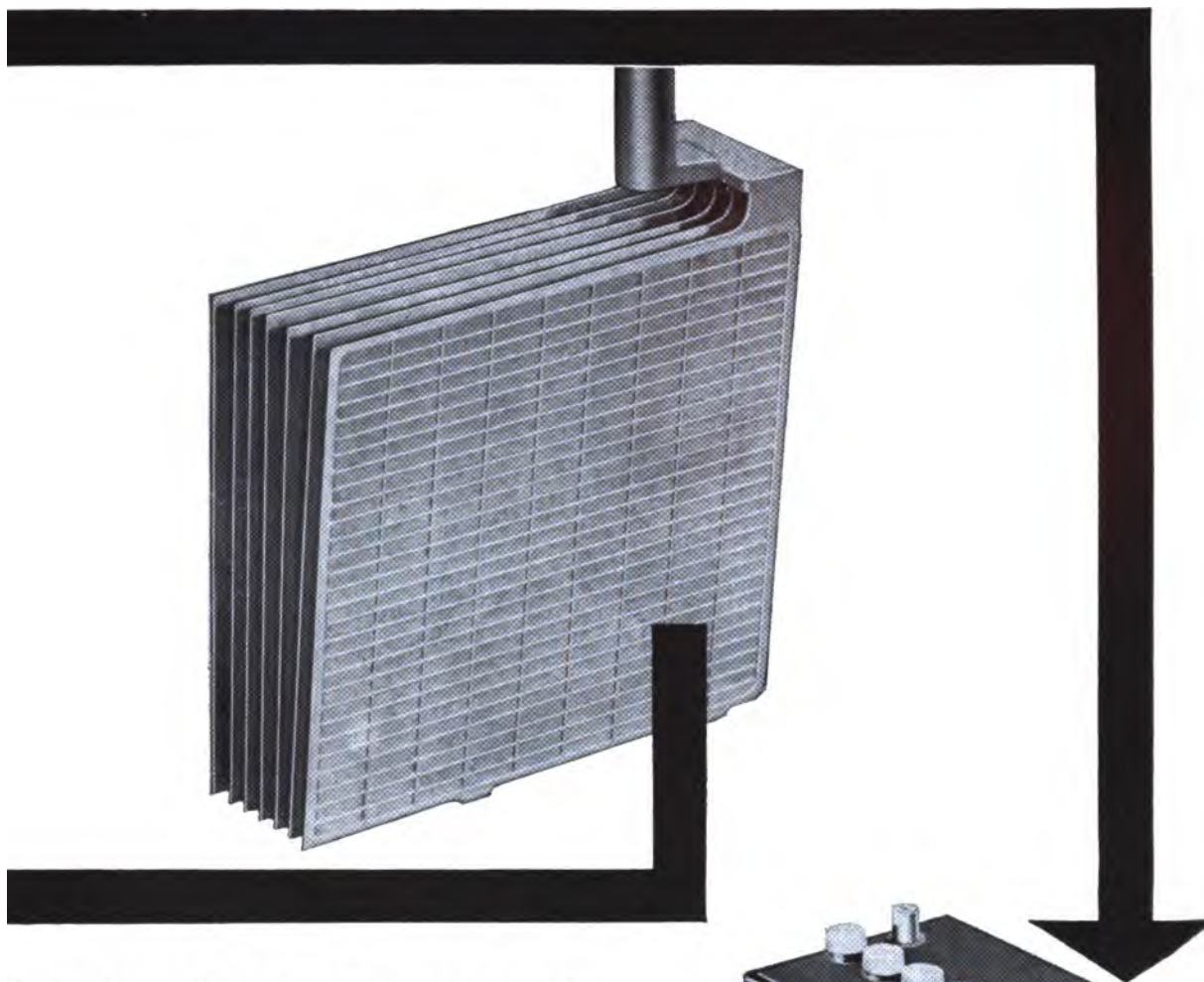
**AT YOUR
JOBBER'S**

Lisle |   

TOOL DIVISION • LISLE CORPORATION • CLARINDA, IOWA

GMAC Earnings Dip

General Motors Acceptance Corp. has reported consolidated net income of \$12,224,857 in the second quarter of 1961, compared with \$12,254,553 in the like period of 1960. Retail installment contracts purchased by GMAC in this year's second quarter totaled \$914,000,000, compared with \$1,195,000,000 in the same period last year.



last off power at the twist of a key!

Positive starting power is yours at the twist of an on key from these Gould-National battery plates. The power's kept there by a patented construction which uses the chemicals Silver and Cobalt to: give 300%* greater protection against overcharge—battery's number one battery killer, (2) reduce battery "dormancy" resulting from undercharge—the nation's number two battery killer.

Another Gould-National exclusive is the new "Sealed till Sold" ring. This plastic seal covers the positive terminal until battery is used—assures you and your customer of factory fresh starting power.

Batteries are available only from Gould-National . . . at no increase in cost. Interested? Write for complete information on a Gould® or National® brand franchise.

*Based on SAE standards



- 1** Silver-Cobalt positive plates
- 2** "Sealed till Sold" ring
- 3** Bi-Plak® separators
- 4** negative plate group
- 5** Deepwell® construction
- 6** anti-splash vent caps
- 7** hard-rubber container



AUTOMOTIVE BATTERY DIVISION

GOULD-NATIONAL BATTERIES, INC.

St. Paul 1, Minnesota

September 1961

Falcon Extends Line

continued from page 55

contour of the camground piston changed slightly. Ring grooves have been deepened and a steel strut incorporated in the piston to control thermal expansion. The top compression ring is now plated with tin instead of chrome. These alterations are designed to reduce internal engine friction, improving gasoline mileage but resulting in a slight increase in oil consumption.

Push-rod ends are hardened to cut wear, quiet the engine and reduce the frequency of valve lash adjustments. Additional oil is now metered to the rocker arms for more effective lubrication. The oil groove has been eliminated from the lower main bearing insert to increase bearing area.

The engine and transmission are supported at the rear by a leaf spring, which is attached to the floor pan crossmember by a rubber bracket. This new type of mount is designed to reduce trans-

MAJOR DATA

	Sedans	Station Wagons
Displacement	144 cu. in.*	144 cu. in.*
Bore and stroke	3.50 x 2.50 in.	3.50 x 2.50 in.
Horsepower	85 @ 4,200	85 @ 4,200
Torque	134 @ 2,000	134 @ 2,000
Compression ratio	8.7:1	8.7:1
Wheelbase	109.5 in.	109.5 in.
Over-all length	181.1 in.	189.0 in.
Height	54.5 in.	55.0 in.

* 170 cu. in. engine, optional in all models, has 3.50 x 2.94 in. bore and stroke, develops 101 hp at 4,400 rpm, 156 lb.-ft. torque at 2,400 rpm.

Marquette puts the profit in tune-up!



Amazing Dyna-Vision performs complete engine analysis in 15 minutes... makes big parts and service sales for you.

How would your tune-up profit picture look if you could:

- Save at least an hour per job?
- Eliminate time wasted on "untunable" engines?
- Reduce "comebacks" to practically nothing?
- Increase parts and service sales by 35-50%?

You can do all this... and more... with the fabulous Marquette-Heyer Dyna-Vision engine performance analysis system.

Sound like magic? It is... modern electronic magic that puts the profit in tune-up!

The Dyna-Vision system has no equal. With only four leads to seven connections (instead of the usual 50!) you pinpoint troubles instantly in ignition, carburetion, low voltage, and power. In one minute, you perform a complete compression test!

AND ANYONE CAN OPERATE THE UNIT!

Sound good? It is! Get the details from your Marquette Jobber. And ask about Marquette's unbeatable financing, training, and sales promotion help.

Call your Marquette Jobber soon. You'll make more money... right away!

MARQUETTE

MARQUETTE MANUFACTURING CO. DIVISION OF MARQUETTE CORPORATION Minneapolis 14, Minnesota

mission of engine noise and vibration into the unitized body.

The new starter motor is smaller and lighter. A sealed housing results in quieter operation and maximum protection for working parts. The generator has a rubber shield at the commutator end to keep out road splash and dirt. Trailing brushes are said to contribute to noise reduction.

Manual Has Interlock

Manual transmissions are equipped with an interlock in the linkage, which prevents first or reverse gears from being engaged unless the clutch is fully depressed. The clutch cannot be engaged until low or reverse gears are properly meshed. This safety mechanism is designed to prevent clashing of gears and damage to teeth by drivers unfamiliar with manual gearboxes.

Brake drums are honed to provide a smoother surface and reduce brake noise. Restriction orifices have been incorporated in the wheel cylinders, resulting in more gradual application and release and less brake noise. The conduit through which the parking-brake cables pass is lined with nylon. The cables require no lubrication and do not corrode. Reduced friction in the cables cuts down the effort required to apply the brake.

Use Two-Ply Tires

Falcons are equipped with two-ply tires, said to give better traction and skid resistance, softer ride, less rolling resistance and cooler operation. Their load rating is equivalent to that of the four-ply tires previously used.

The front stabilizer strut is now 3/4 in. in diameter, 1/8 in. larger

t used in the 1961 model. It bracket has been reinforced for greater durability. A insulator pad is now located ch coil spring to cut down sion of road noise to the ar shock absorber brackets been beefed up. most noticeable styling are the deep, full-width ie simulated air scoop on l and the straightening of t fender line. Greater use nized steel and zinc-rich s designed to increase re- o body corrosion. Internal door locks are plated to them from corroding. it tracks are zinc-plated. rs for front seat belts are on all Falcons.

Models Offered

ine for 1962 consists of a sedan, four-door sedan, door Futura with bucket two-door station wagon, a r station wagon, the four- tire wagon, the Station Bus Club Wagon. ation Bus has seats for two ard equipment, with op- acity up to eight. The senger seating arrange- standard in the Club Wag- latter model is available in : color—blue exterior and Padded dash and sun vi- ated vinyl trim and up- and body side molding are the items furnished as equipment.

NOW TURN BACK TO PAGE 56

Proof Tune-Ups

l from page 58

nd the cause to prevent a ce. The trouble can be in ge regulator, ground strap, resistance or condenser, or vapors. Align new points, ary, by bending the sta- contact and set the point the high side to compen- initial wear of the rubbing heck the advance on a dis- tester. Time to manufac- pecifications.

re the battery and cables od condition. The top of ery must be kept clean on batteries because of the oltage between the termi-

nals. It pays to make a light load test of the battery with a suitable voltmeter.

To make this quick test, crank the engine. If it starts, shut it off immediately. If it doesn't, hold the starter switch on for just three seconds. Then turn on the headlights and check the individual cells.

If all cells read 1.95 volts, and the variation between the highest and lowest cell is less than .05 volts, the battery is in good condition. If all cells are low but the variation between cells is less than .05 volts,

the battery is still good but should be recharged and rechecked. A variation of more than .05 volts with any cell reading 1.95 volts or more indicates a defective battery.

Cranking voltage and primary-circuit operating voltage can be checked quickly with a voltmeter. Secondary resistance and coil polarity are easy to check with a 'scope.

Next, check the fan belt. A strand-tension gauge permits a fast, accurate adjustment to be made. Then inspect the generator com-

[CONTINUED ON PAGE 192]

FREE CLAMP-RACK

A PERMANENT STOCK ORGANIZER



... BELONGS NEAR YOUR HOSE RACK!

Can be mounted on wall, shelf or bench—keeps clamps orderly, clean, accessible. . . . Yours free with a fast moving assortment of Hy-Gear or Snaplock hose clamps.

Ask your jobber for your CLAMP-RACK now!

IDEAL CORPORATION, 435 Liberty Avenue
BROOKLYN 7, N. Y.



ON EVERY CAR EVERY YEAR . . . AT INDIANAPOLIS



Winter-Proof Tune-Ups

continued from page 191

mutator and brushes. Brushes worn to less than half their original length should be replaced. A quick finger check for freedom of brush movement and spring tension can be made.

Don't overlook the manifold heat-control valve. Tighten the manifold bolts to the specified torque. Check the fuel lines and service the fuel filter. A quick

check of pump efficiency can be made by disconnecting the fuel line at the carburetor and directing the line into a container. Using the fuel in the carburetor to run the engine at idle, the pump should deliver 1 pt. of fuel in 45 seconds or less.

Check the choke setting and make sure the throttle opens fully. While the engine is warming up, check the lights, wipers, directional signal and horn. Then make whatever carburetor adjustments may be required. Service or replace the

air cleaner element. A checking gauge is available to quickly determine whether the filter is restricted.

Don't forget the cooling system. Look for sludge or rust and blow any bugs or dirt out of the core air passages. Check the hoses. The pressure cap can be checked quickly with a tester.

Finally, check tappet clearances on cars with mechanical tappets and road-test to be sure of peak performance.

If every step recommended here is followed carefully, the customer can be assured a car that will see him safely through the winter.

THE END. NOW TURN BACK TO PAGE 59



NOW! Dual Use for New MARVEL HI-REV

CLEANS THE CARBURETOR WHILE DRIVING

Acts fast to clean all inside working parts of the carburetor, without removing it from the engine. No work, no bother. Just add 1-Qt. of HI-REV (half the amount in compacts) to a full tank of gas. Dissolves gum and varnish; eliminates moisture from fuel system.

CLEANS THE CRANKCASE WHILE DRIVING

Dissolves and removes harmful internal motor deposits; restores valves and valve lifters to full operating efficiency. Restores lost horsepower, improves mileage. Add 1-Qt. of HI-REV to crankcase (do not fill above oil level). Car should be driven at least 200 miles to clean engine. Then change oil while engine is hot. To keep the engine clean, add a quart of Marvel Mystery Oil first.

5 BIG ADVANTAGES FOR YOUR CUSTOMERS

- Restores lost power
- Faster Pick-Up
- Increased Gas Mileage
- No More Stalling
- Smoother Driving

HI-REV is available in Quart cans. Gal. Can with Spout; 5 Gal. Drum with Spout, and 15, 30 and 55 Gallon Drums with Faucets.

Order from your Jobber; if yours can't supply you, write us for information and prices.



MARVEL OIL COMPANY, INC.

Port Chester, New York

Makers of Marvel Oil Products For More Than 40 Years.

NEW ON THE JOB

At Car, Truck Factories

JAMES BEATTIE, JR., to vice president and general sales manager, Willys Motors.

THOMAS E. DARNTON to director of reliability, Oldsmobile Div.

WILLIAM C. LEE to parts and accessories manager, Buick Motor Div.

ROBERT H. KLINE to director of service, Dodge Div.

THOMAS A. OSTBY to director of market planning and F. E. COGDILL to director of marketing services, Chrysler Corp.

CHASE MORSEY, JR., to assistant general manager, Lincoln-Mercury Div.

WILLIAM S. VENN to vice president, Chrysler Motors Corp., sales subsidiary of Chrysler Corp.

JOHN A. CASTLE to director of public relations, GMC Truck and Coach Div., General Motors Corp.

HARRY E. LEWIS to assistant national service manager and REG I. RICE to manager of the new Technical Services Dept., Ford Div.

Ford's Net Up

Ford Motor Co.'s consolidated net income for the second quarter of 1961 amounted to \$133,200,000, 9 per cent more than the \$121,700,000 earned in the same period last year.

Sales in the second quarter of this year totaled \$1,878,300,000, 5 per cent higher than second quarter sales of \$1,790,400,000 in 1960.

fers Two e Cars

from page 56

equipment in all 6's for spring-loaded plunger and tic in the aluminum rock-atomatically take up any in the valve train.

and exhaust valves are fitted to maintain mini-erances in stem-to-guide

Valve stems are given a ntive coating to minimize ility of sticking, particu- r long periods of storage.

ter-Heated Spacer

2 and 390 cu. in. V-8's in- a water-heated, alumi- er between the carbure- itake manifold. Similar to first introduced on the ie spacer is inserted in the to the car heater. Hot ving through it helps va- : fuel and aids in prevent- retor icing. The manifold ol valve has been elim- reducing exhaust-system sure. A portion of the ex- s is still metered through : manifold crossover, how-

inlet pipes are laminated exhaust noise. Dual muf- lard with the 390 cu. in. on all convertibles, use less and aluminized steel. ffers, less subject to rust- lue to their higher oper- perature, are made of d steel.

ffer Five Drives

ansmissions are offered. ee-speed manual unit, on all models, is equipped nterlock to prevent shift- first or reverse unless the fully depressed. It is like- ossible to let out the til first or reverse gears letely engaged. Transmis- t rods have been made o give a more solid feel to

ive is available with any hile the four-speed man- ox can be teamed only 352 or 390 cu. in. V-8's. -speed Fordomatic is of- h all engines except the 1. V-8. The throttle valve

of this transmission is now controlled by vacuum, rather than mechanically through the throttle linkage. Cruise-O-Matic, which adopted the vacuum throttle valve control in 1961, is available with any V-8 except the 390 cu. in. high-performance powerplants.

A new lubricant and more effective seals, it is claimed, make it possible to run wheel bearings 30,000 miles before repacking. Additional slots in the adjusting nut permit finer adjustment.

Front-suspension lower ball

joints are now spring-loaded to take up any clearance caused by wear.

The frame has been "tuned" for a softer ride by increasing the flexibility of the first two crossmembers. A shoulder on the No. 1 body mount bolts prevents the bolts from being overtightened, assuring proper cushioning action by the rubber insulator. Rubber bushings in the front hanger of the rear spring have been enlarged to permit greater fore-and-aft movement to absorb road shock.

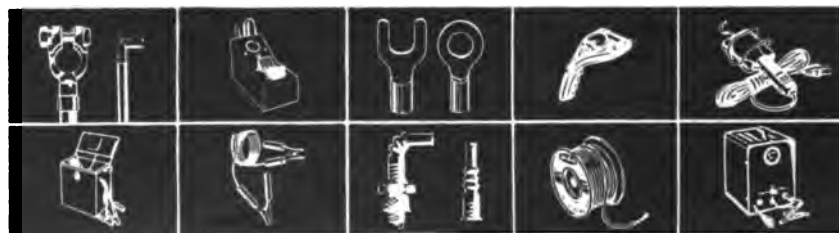
[CONTINUED ON PAGE 198]



PUT A NEW SILVER BEAUTY POLARITY PROTECTOR ON YOUR BATTERY CHARGER; YOU'LL NEVER AGAIN HAVE TO WORRY ABOUT REVERSED LEADS BURNING OUT AN ALTERNATOR!

Exclusive! Only protector that fails safe. If long-wearing parts *should* burn out, circuit is broken, charger won't operate. Others fail in "on" position, dead short, quit giving the protection

you're paying for. Simple to install. universal for any charger, this one can be connected with AC line in, controls operating. You can't go wrong! Triple-A Specialty Company, Chicago



EVERYTHING FOR THE BATTERY BUT THE BATTERY ITSELF!

How Top Brake Shops Build

Brake relining today is big business, accounting for over \$700 million in sales each year! *Quality* workmanship coupled with a *quality* brake lining can help you get your share of this big market. So why not start now to boost your '61 profits! Start by using the sound, tried-and-true installation methods used successfully by thousands of professional brake mechanics to prevent annoying comebacks and build repeat business.

Let's begin at the beginning. A car has just pulled into your shop and the driver has complained that he's having trouble with his brakes. Just by pushing the brake pedal you can learn plenty. Check free play of the brake pedal with your hand. It should be from 1/4" to 1/2" on most non-power brakes. With power brakes, free pedal should be anywhere from 1/16" to 1/8". Now push the pedal with your foot. If it binds or locks you have another valuable clue. It indicates possible trouble in the pedal linkage, mounting or master cylinder.

Pressure build-up should be smooth and constant. If pressure builds up, then drops off sharply, it may be a sticking master cylinder, wheel cylinder, or partially blocked hydraulic line . . . usually a hose. When you make the pedal test you are also checking

pedal reserve. If reserve is low, it indicates the need for brake work, or at least a adjustment.

If the pedal "floor-boards" when you push it down, it is an indication of low fluid in the master cylinder, excessive shoe travel or a leak in the hydraulic system. So push the pedal. If pressure builds up, it indicates that the shoes are moving too far. An adjustment or reline job is in order.

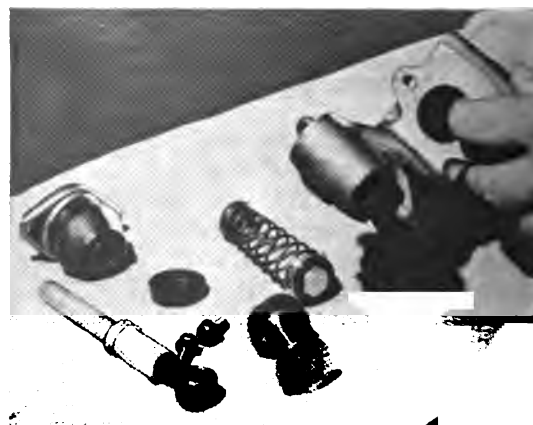
In performing a reline job, each part should be checked as it is removed. Checking-as-you-go speeds the job and saves you time to procure any parts required might not be in stock. Check the wheel cylinders and grease seals carefully when the drums are removed. Always replace the seals when doing the complete brake job.

Drums should be turned in pairs. The front drums and/or the two rear should be turned to the same diameter. Always check the drum diameter before and after turning. If the diameter is more than .060" over standard drum diameter, replace the drums. Remember that brake drums are heat reservoirs. They absorb a lot of heat during braking. The less metal the drum has, the less the drum's capacity to absorb heat properly.

If drums have been turned, be sure to



Free play: 1/4" to 1/2" on most non-power brakes, 1/16" to 1/8" on most power brakes.



Each part should be checked as it is removed to save time on the job.

Volume Repeat Business!

thickness American Brakeblok lining. The lined shoe in the brake drum. It is recommended that from .005" to .012" clearance be allowed at each end of the lining. Never allow clearance between center of lining and drum. This is a cause of noise, as well as a contributing factor to brake pull.

Inspect the cylinders thoroughly. Wheel cylinders are a very critical part of the brake system. Extreme care should be taken to prevent dirt or abrasive elements from getting into the cylinder area. Use only alcohol or kerosene for cleaning these parts.

When you install the brake shoes be sure to seat them in their proper position. Consult your American Brakeblok service manual for complete details. After you have installed the brake shoes and springs, make a final inspection to be sure every part is in its proper place before installing the drum. Drums are easily distorted when tight-heel lugs. Never completely tighten a heel lug before starting the others.

Completely bleed the brake system before making adjustments. A power or pressure bleeder is recommended. Start bleeding the cylinder farthest from the master cylinder in cases where there are two wheel

cylinders on a brake, bleed the lower one first. Allow sufficient fluid to flow through each wheel cylinder to insure a complete flushing of the system and remove all air.

If brake is of such design that it has adjustable anchors, give it a very careful and complete major adjustment. If brake does not have adjustable anchors, then proceed with minor adjustment. In the case of servo or self energizing brakes, back off star wheel adjuster 14 notches from a tight brake.

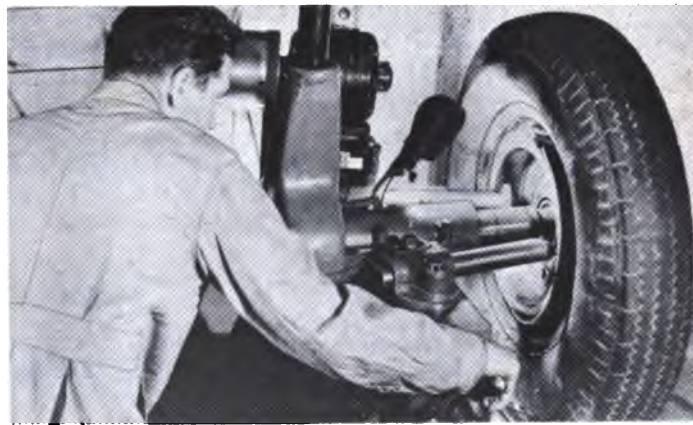
Needless to say, every job which leaves your shop should be the very best job it was possible for you to do. (Never return a car to the customer with *any* drag between lining and drum.) Satisfied customers mean repeat business. They also are your prime new business builders. The good word gets around . . . and you profit by it! (Just as you will profit by using high-quality American Brakeblok on all your relining jobs!)



P. O. BOX 21 • BIRMINGHAM, MICHIGAN



Inspect bearings and grease seals carefully.



Drums should be turned in axle pairs.



Cut costs, save time with B&D accessories

Regardless of whether you're interested in wet or dry pick-up, you'll find B&D-designed accessories equip your unit with the versatility needed to finish the job ahead of schedule.



STANDARD ATTACHMENTS feature a full line of ruggedly built brushes, squeegees, nozzles, straight and curved extensions for wet or dry pick-up.



LIGHTWEIGHT COMMERCIAL ATTACHMENTS include handsomely-designed floor and dust brushes, upholstery and drapery nozzles, and extension tubes.



HEAVY-DUTY ATTACHMENTS offer you a longer-lasting quality line for wet and dry pick-up.

Your local B&D distributor has them all. Give him a call today!



Black & Decker
ACCESSORIES
DESIGNED FOR THE TOOL

MAJOR DATA

	6 cyl.	V-8	V-8	V-8
Displacement	223 cu. in.	292 cu. in.	352 cu. in.	390 cu. in.
Bore and stroke	3.62 x 3.60 in.	3.75 x 3.30 in.	4.00 x 3.50 in.	4.05 x 3.78 in.
Horsepower	138 @ 4,200	170 @ 4,200	220 @ 4,300	300 @ 4,600
Torque	203 @ 2,200	279 @ 2,200	336 @ 2,600	427 @ 2,800
Compression ratio	8.4:1	8.8:1	8.9:1	9.6:1
Wheelbase	119 in.	119 in.	119 in.	119 in.
Over-all length	209.3 in.	209.3 in.	209.3 in.	209.3 in.
Height	54.8 in.	54.8 in.	54.8 in.	54.8 in.

Ford Offers Two Full-Size Cars

continued from page 195

Brake-adjustment screws are now electroplated for protection against corrosion and sticking, which would prevent the automatic adjusters from working properly.

Single-speed, electric windshield wipers replace the vacuum type as standard equipment. A two-speed wiper with washer is optional. Length of the wiper blades has been increased from 13 to 15 in. for greater coverage.

The air-mix type of heater, which has been used off and on in various Ford Motor Co. products during the past several years, has been reintroduced in the 1962 Galaxie. Water circulates through the core at all times. Temperature is regulated by a damper, which di-

rects some of the incoming air through the core and the into a mixing chamber. The portions of warm and cold air termine interior temperature.

Only a two-door and four-sedan are offered in the Galaxie 500 model. The Galaxie 500 model include a two-door sedan, two-door hardtop, four-door sedan, four-door hardtop and convertible. The liner, a two-door hardtop sloping roof line and wrap-around rear window, has been dropped from the line.

Five four-door station wagons are available. The Ranch Wagon is offered as a six-passenger model while the Country Sedan Country Squire can be furnished in both six-passenger and nine-passenger versions. The two-door Ranch Wagon has been discontinued.

THE END. NOW TURN BACK TO PAGE 195

"Winning Ring" Contest

Ramsey Corp. has announced a "Winning Ring" contest in which 600 prizes will be awarded to installers and suppliers of Ramco piston rings. Six winners will receive their choice of either a 1962 Corvair Monza or Rambler American station wagon.

Separate contests will be staged in October, November and December. In each month, two entrants in each of the firm's 50 sales areas will qualify for prizes, with a duplicate prize awarded to jobber employees selected by winners and indicated on their entry blanks.

Accept CCC Offer

Board of directors of the City Loan and Savings Co. of Lima, Ohio, has voted unanimously to recommend to its shareholders that they accept an offer to exchange their stock for common and pre-

ferred stock of Commercial Co. Three shares of the common stock of the company would be changed for one share of the common stock and one share of the preferred stock of Commercial Co.

City Loan and Savings Co. at Dec. 31, 1960, resources in excess of \$145,000,000. It restricts its operations to the state of Ohio and has 160 offices.

Two New NADA Directors

Of the seven directors elected recently by National Automobile Dealers Assn. members, two are new. They are Nelson C. Quill, New Castle, Del., and J. Al Begnaud, Lafayette, La.

Directors returned for new terms are John H. Lander, Atlanta, Ga.; William E. Voyce, Jr., Baltimore, Md.; J. M. Alton, Columbia, Mo.; W. Neff, Fremont, Neb.; and Ar. Pozzi, Jr., Carson City, Nev.



And what pick-up! B&D's new, longer line of heavy-duty vacuums picks up all dirt and grit, even wet sludge in the grease pit!

"pick up" out a car, "mop" up a wet floor . . . Black & Decker's new line of nine heavy-duty vacuum cleaners helps any garage keep its face clean. You can clean up anywhere, have power to spare. Portability is no problem. And if you choose the portable, whisper-quiet No. 25, you can carry it wherever you go . . . strap it on your back to clean the top of the stock rack.

Large designed tank inlets make for extra capacities (entire line ranges from 1/4 bushel to 40 gallons). Drain-off outlets are standard on stainless

steel models for quick and easy wet-disposal. All attachments are as streamlined as next year's car. And, don't forget famous B&D Service. Check into the new line of nine NOW at most B&D Jobbers . . . for low monthly payments. *For sales or service, look in the Yellow Pages under . . .*



Black & Decker®
WORLD'S LARGEST MAKER OF POWER TOOLS

THE BLACK & DECKER MFG. CO., Dept. 509
Towson 4, Md. (In Canada, Brockville, Ont.)

- ☐ Please arrange a demonstration of B&D Vacuum Cleaner line
☐ Please send additional information on.....

Name..... Title.....

Company.....

Address.....

City..... Zone..... State.....

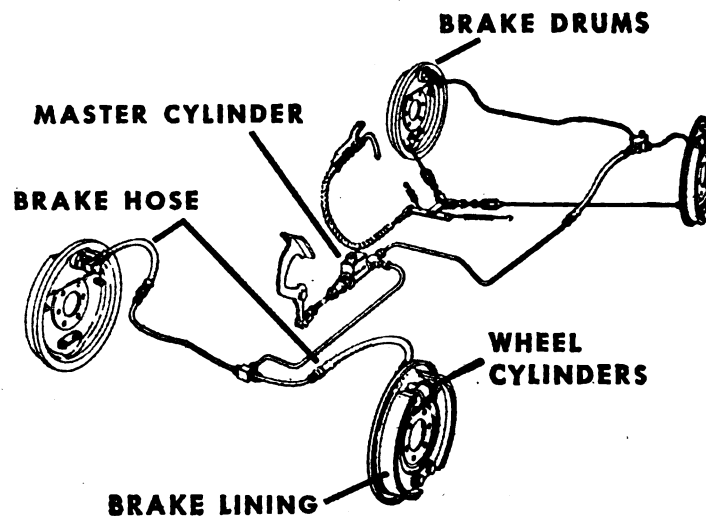


☐ Valve Refacers

☐ Drills

HERE'S HOW to turn out that make cars safer

**DANGER
SPOTS**
to CHECK
when
BRAKES
are
serviced...



You're always right with the Quality Line

Wagner® Lockheed®

the best known—and most trusted name in brake service products

Better brake service jobs and customers happier!

Standardize on



WAGNER LOCKHEED BRAKE PARTS...FLUID...LINING

Products that function correctly so that cars can stop safely

Every possible danger spot should be checked when brakes are being serviced. For safety's sake, always inspect the master cylinder... brake lines... brake drums... wheel cylinders... and adjust. Skip *none*!

Replacement cylinders, hose, fluid or lining—restore original braking efficiency by Wagner® Lockheed® Products... It's a sure way to turn out jobs that make cars safer—and customers happier... It's easy—and profitable.

Lockheed Replacement Brake Parts are manufactured by the same machinery—to the same specifications—as parts used for original equipment. Line includes master and wheel cylinder kits, pistons, springs, washers, cups and more for every make and model vehicle. Line includes **POWER BRAKE REPAIR KITS** including brake cables.

Wagner Lockheed Brake Fluid with T.R.I. (Temperature Resistant Ingredients) is chemically balanced to function efficiently under all driving conditions... surpasses S.A.E. specifications, meets State laws, and conforms to Federal specifications.

Wagner Lined Brake Shoe Sets are supplied with lining contour ground to compensate for normal drum distortion. "How-to-do-it" Installation Instructions, and a "thank-you" Dash Tag are packed with each set. Line also includes sets, blocks, rolls, and slabs.

Become a Franchised Dealer—enjoy special benefits. For details, ask your Wagner Distributor—or write us. Learn how easily you can qualify.

Wagner Electric Corporation

Manufacturers of LOCKHEED® Products



FREE—

Ask for Catalog AU-500... it covers the complete Wagner Lockheed line of top-quality brake parts, fluid, lining and lined shoes. Better request a copy now—before the supply is exhausted.

Wagner Electric Corporation

6452 PLYMOUTH AVE., ST. LOUIS 33, MO., U. S. A.
(Branches in principal cities in U. S. and in Canada)

Please mail us Catalog AU-500

NAME _____

FIRM NAME _____

ADDRESS _____

CITY & STATE _____

WA61-B

Oldsmobile Boosts Compression

continued from page 66

supercharger impeller. Since the blower is downstream from the carburetor, it pulls mixture through it, compresses it and forces it into the intake manifold. Utilizing exhaust gases to drive the supercharger eliminates the power loss of mechanical drive. To prevent detonation at the 10.25-to-1 compression ratio, a pressure-sensing

MAJOR DATA

	F-85	Dynamic 88	Super 88	98
Displacement	215 cu. in.	394 cu. in.	394 cu. in.	394 cu. in.
Bore and stroke	3.5 x 2.8 in.	4.125 x 3.687 in.	4.125 x 3.687 in.	4.125 x 3.687 in.
Horsepower	155 @ 4,800*	280 @ 4,400	330 @ 4,600	330 @ 4,600#
Torque	210 @ 3,200*	430 @ 2,400	440 @ 2,800	440 @ 2,800
Compression ratio	8.75:1*	10.25:1	10.25:1	10.25:1#
Wheelbase	112 in.	123 in.	123 in.	126 in.#
Over-all length	188.2 in.	213.9 in.	213.9 in.	220 in.#
Height	52.7 in.	55.8 in.	55.8 in.	56.6 in.#

*Power pack, standard on Cutlass, optional on other models, develops 185 hp at 4,800 rpm, 230 lb.-ft. torque at 3,200 rpm, has compression ratio of 10.25 to 1.

#Starfire engine develops 345 hp, with 10.5 to 1 compression ratio. Dimensions of Starfire models are same as Super 88.

**Don't let
LOW AIR PRESSURE
give you
HIGH BLOOD PRESSURE!**



Play it **SAFE** with dependable

Kellogg-American



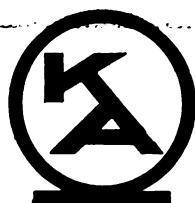
Superior Kellogg-American engineering and workmanship assure longer trouble-free life.

Kellogg-American air compressors give efficient, low-cost service by delivering more **USABLE FREE AIR** per kilowatt hour.

Warehouses and parts depots are strategically located throughout the country to insure prompt shipment.

Kellogg-American produces over 250 different standard models from 1/3 thru 20 HP, single and two-stage.

For full details, see the Yellow Pages for the name of your nearest Kellogg-American jobber or write to:



Kellogg-American

DIVISION SCAIFE COMPANY • PITTSBURGH 35, PA.

injector automatically supplies a mixture of water, alcohol and corrosion inhibitor to the carburetor throat when supercharger boost pressure is from 2 to 10 in.

The Hydra-Matic transmission now has what is described as a pressure-compensated shift pattern. Valves and orifices in the control system have been recalibrated to provide smoother shifting over a wide range of load and speed.

Upper and lower front-suspension ball joints are now packed with grease containing molybdenum disulphide and sealed. The generator and distributor are equipped with sealed bearings. Under normal operating conditions, full-size 1962 Oldsmobiles are said to require no additional lubrication.

Automatic adjusters are incorporated in the braking systems of all cars equipped with power brakes. Tapered roller front-wheel bearings are used in place of the previous ball bearings.

Alternators Used

A horizontally opposed, 6 cyl. compressor is used in all air-conditioned Oldsmobiles, including the F-85. The new unit has more capacity than the previous 5 cyl. type and is said to be quieter in operation. Full-size cars equipped with air conditioning use a 52 amp. alternator in place of the generator supplied with all other company models.

Except for the changes in air conditioning and Hydra-Matic, which it shares with its bigger brothers, the F-85 is virtually the same mechanically as the 1961 model. The shape of the front-suspension isolation mountings has been changed slightly to reduce the

transmission of road noise and shock. Shock-absorber valving has been altered for more effective damping of minor road irregularities.

The 155 hp aluminum V-8 is standard on all F-85's except the Cutlass coupe and convertible. The latter models are powered by a 185 hp version of the same engine. The added output comes from the use of a four-barrel carburetor and a compression ratio of 10.25 to 1. This engine is optional in other models.

Bucket seats are standard in both Cutlasses. Like other models in the series, they have a new one-piece grille and ribbed hood. Rear-end treatment is new, with twin taillights on each side. In addition to the Cutlass convertible and sport coupe, the F-85 offers a club coupe, a standard convertible with bench seat, standard and de luxe four-door sedans, standard and de luxe four-door, two-seat station wagons and a standard three-seat station wagon.

Length Increased

The bigger Oldsmobiles have been restyled to give the impression of greater length, although the actual increase is less than 2 in. All two-door hardtops and the 98 four-door hardtop have a new roof with a contour similar to that of a convertible. The visor at the rear of Dynamic 88 and Super 88 sedans has been eliminated. The top fender line has been straightened on all models.

Hydra-Matic, power steering, power brakes and dual exhausts are standard on both Starfires. The selector lever for the automatic transmission is located in the console between the bucket seats.

Three Models Dropped

While the Starfire hardtop is an addition to the line for 1962, three other models have been dropped. A two-door sedan is no longer offered in the Dynamic 88 series, leaving a four-door sedan, two-door and four-door hardtops, six passenger and nine-passenger station wagons, and a convertible.

The Super 88 convertible and nine-passenger station wagon have been discontinued. The series now includes a four-door sedan, two-door hardtop, four-door hardtop

and six-passenger station wagon.

The 98 series consists of a four-door sedan, two-door hardtop, convertible and two four-door hardtops, one with six windows and the other with four.

THE END. NOW TURN BACK TO PAGE 67

San Francisco, Indiana County Share Awards

Grand awards for the best city and county vehicle safety-check programs conducted last May and June have been won by San Fran-

cisco, Cal., and Madison Co., Ind.

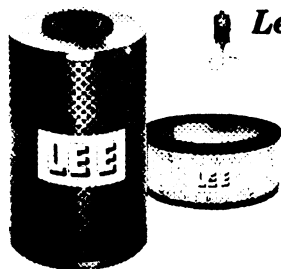
Circle-of-Safety awards went to Oelwein Junior Safety Council, Oelwein, Ia., for conducting the outstanding teen-age sponsored check and to the teen-agers of Coffeyville, Kan., for top support to a community program.

Altogether 88 awards were made. The safety project is sponsored nationally each year by the Auto Industries Highway Safety Committee and *Look* Magazine, with the cooperation of the Assn. of State and Provincial Safety Coordinators.



LEE puts an oil refinery in your customers' cars!

Just like an oil refinery, a full-flow LEE Oil Filter not only removes sludge and grit, it also *neutralizes acids* which often form as a by-product of combustion. This dual-action purifying process—made possible by LEE'S *Resinweld®* construction and unique antacid *Feridium®* anode—assures better engine performance, greater customer satisfaction.



Lee creates new concepts

in filter design and efficiency

Every dual-action LEE filter gives you an *extra profit margin* as well as an extra sales feature: LEE Oil Filters remove dirt and neutralize acids; LEE Gas-O-Line Fuel Filters remove both sludge and water; LEE flame-proof Air Filters prevent under-hood fires caused by carburetor backfire. See your jobber today for the details.

LEE FILTERS pipe profits into your pocket

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PG* TESTING! One reason why *Raybestos*

*Proving Ground

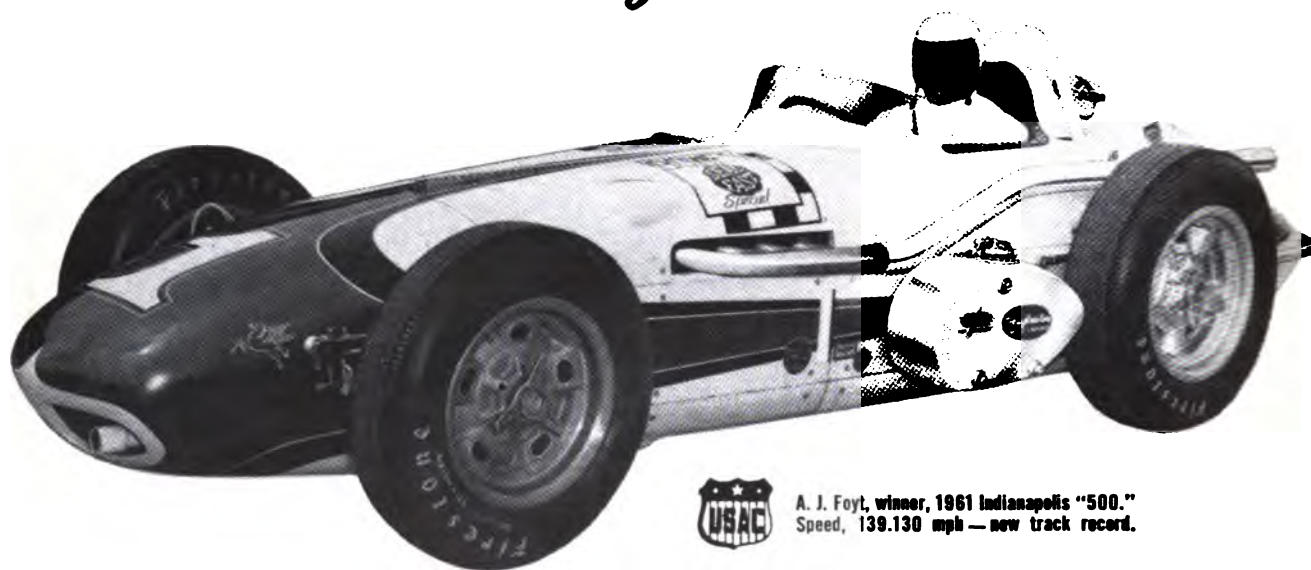


Connecticut State Police check seal on brake drums at start of Raybestos Cross-Country Brake Lining Test in February. Drums were sealed so no changes could be made during 3000-mile run from Bridgeport, Conn., to Los Angeles. A '59 Chevrolet and a '59 Ford were used. Stock sets of Raybestos PG Brake Linings—bonded on the Chevrolet, riveted on the Ford—were installed.



Route included extremes of weather and road conditions—from the severe cold in the snow-covered mountains of the Northeast to the blistering hot highways of the Southwest. Neither snow, slush nor intense heat had any noticeable effect on braking efficiency. City stop-and-go traffic produced much greater temperature buildup in linings and drums than mountain or desert driving.

5th straight year... *Raybestos* wins at Indianapolis!



A. J. Foyt, winner, 1961 Indianapolis "500."
Speed, 139.130 mph — new track record.

1st, 2nd, 3rd finishers rely on Raybestos! A. J. Foyt shot home ahead of the pack in the 1961 Indianapolis "500." Eddie Sachs and Rodger Ward were right behind him. The three had one thing in common: Raybestos Brake Lining. They knew they could count on it to give them that vital extra margin of safety as they braked down from over 170 mph into those vicious turns.

"500" a proving ground for Raybestos! The long, hot miles of the Indianapolis classic add up to real punishment for brakes.

That's why we use this race to test and develop our linings. We learn a lot from the "500" and, as a result, when you reline your customers' cars with Raybestos you know you are assuring them of smooth, safe stops every time.

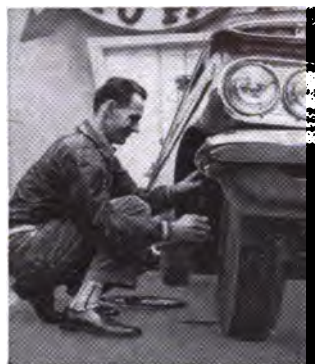
For your own set of three 8 x 10 photos of A. J. Foyt, Eddie Sachs and Rodger Ward, just send \$1.00 (to cover handling and postage) with your name and address to Raybestos.



ing means safety for your customers!



Test vehicles were thoroughly instrumented in order to provide a complete record of brake applications. A U-tube decelerometer and a line pressure gage on the hydraulic system recorded brake performance for each stop. Counters recorded the total number of stops (over 2420 brake applications were made), and four pyrometers measured the brake lining temperatures at each wheel.



Lining wear measurement with Raybestos SAFE-T-GAGE* at end of trip revealed that the projected average life of stock Raybestos PG Brake Lining in this type of test is equivalent to 14 cross-country trips. Though lining wear was the most important finding of the test, it's also worth noting that, as expected, the Raybestos linings used on this cross-country run never pulled, squealed or faded.

*Pat. pending

SAFE-T-GAGE helps you ach every possible sale!

olutionary caliper-type instrument enables you to
torists how much or how little stop is left in their
to make wheels off *really* pay off, use it with the
..

Raybestos **7** POINT BRAKE CHECK

(includes adjustment)

ont wheels, SAFE-T-GAGE linings
brake drums
t front wheel bearings
brake assembly
hydraulic system
brakes or recommend reline
est brakes



You can get this Safe-T-Gage free
with a Raybestos 8-set assortment.
See your Raybestos jobber.



ERICA'S BIGGEST

SELLING FRICTION MATERIAL

ESTOS DIVISION of Raybestos-Manhattan, Inc., BRIDGEPORT, CONN.

Automatic Drive for Mercedes



Aluminum fuel-injected engine powers 300 SE

New top model in the Mercedes-Benz line, this 300 SE has a four-speed automatic transmission of the company's own design. Other stand-

ard equipment items include power steering, disc brakes, air suspension. Aluminum fuel-injected engine develops 185 hp.

Dealers Rush To GW Plan

continued from page 98

\$10 to \$25 more for these units than for run-of-lot jobs. However, this is not the intent of GW, which seeks first to enhance the prestige of the dealer selling used cars, and second to get buyers in the habit of coming back to the dealer for service instead of going to an independent as so many of them habitually do. If a used car is sold for more than the going price because of the GW tag, the difference is all gravy, except for salesman's commission.

On the face of it, GW might look like a costly undertaking for the dealer because of the 15 per cent he gives away in service, not only on the cars he sells but also on GW cars sold by other subscribing retailers.

In reality, the service business, even at 85 per cent of his normal charges, is business he would not ordinarily get, because the usual used car buyer does not return to the dealer's shop. That results in an increase in service business. And all this is cash on the barrel head, eliminating all collection costs and bad debt write-offs.

The dealer saves additionally on policy adjustments and a substantial amount on used car reconditioning expense.

Of course, the dealer has to pay

for the privilege of operating under GW; in the case of Iowa, this amounts to a fee of \$25. For this he receives his certificates, the brochures listing the other members in his state, embossed used car stickers and window identification decals. These can be reordered at nominal prices.

It is considered essential that at least 25 per cent of the dealers in a state join the plan before it can be effective.

States now using the plan, in addition to Iowa, are South Dakota, Wisconsin, Illinois, Nebraska, Mississippi and Washington. Pennsylvania, Michigan, and North Dakota begin in October and Colorado joins up in December.

Utah and Indiana have already approved adoption of the plan but no date has been set.

In Canada, Ontario province has been using the plan since last April.

GW is a copyright plan. The copyright is held by the Iowa Automobile Dealers Assn.

Alerts Sleepy Driver

An electrical device which automatically alerts a sleepy driver, then shuts off the engine if he fails to respond to the signal, has been developed by Liberty Mutual Insurance Co. Research Center. The Alert-O-Matic, which is installed in the company's Survival Car 11, can

be wired into the ignition system of any car.

Every 60 seconds a light flashes to test the driver's reactions. If he taps the horn ring within five seconds the light goes out. If he fails to respond to this signal, the car's horn blows. If, after another three seconds, the driver has still not pushed the horn ring, the device switches the ignition off and on for a period of five seconds. Finally, if there is no response, the ignition is automatically shut off.

The units are now being field tested throughout the country.

Booklet Tells How To Get Servicemen

A new 16-page booklet, published for the Automotive Industry-Vocational Education Conference by the Automobile Manufacturers Assn., explains in detail how car dealers of the country can obtain automotive mechanics.

Covered by the booklet are such topics as organizing local advisory committees to work with the public schools, participating in career-day conferences at local high schools, holding open houses for automotive students and teachers and participation in cooperative study training programs.

Copies of the booklet may be obtained from the Automobile Manufacturers Assn., 320 New Century Bldg., Detroit 2, Mich.

Missouri Car Dealers Appoint Kalberloh

Ralph J. Kalberloh has been appointed executive vice president of the Missouri Automobile Dealers Assn., replacing James A. Gorman, who has accepted a similar position with Los Angeles and southern California dealer groups.

Award Dedicated to Cooper

The "Mr. Colorado Dealer" award, sponsored by the Colorado Automobile Dealers Assn., has been designated this year as the Walter B. Cooper Memorial Award in honor of the late president of the National Automobile Dealers Assn. Mr. Cooper operated a dealership in Fort Collins and was a leader in educational, civic and youth affairs.

Give 'em what they want...
Give 'em **GUMOUT**



There are 48,000,000 customers for GUMOUT on the road right now! 48,000,000 cars with dirty carburetors! 48,000,000 cars in trouble with stalling . . . or bucking . . . or hard starting . . . or high gas consumption . . . or poor power . . . or other performance failures. Give 'em what they want . . . Give 'em GUMOUT! The most reliable, best known, most widely used "on-the-engine" carburetor cleaner in America!

JMOUT Cleveland 4, Ohio

OR, September 1961

New Engines Run On Various Fuels

Detroit Diesel Engine Div. of General Motors has developed a series of engines that can operate on a variety of fuels ranging from Diesel oil to gasoline.

The company revealed it could offer the armed forces 12 multifuel powerplants of uniform design ranging from 20 to 650 hp. Each is capable of burning various grades of gasoline, compression-ignition fuel, jet kerosene or Diesel fuel. The

fuels may be used singly or in combination without any additional engine adjustment.

Power output, however, will vary with the type fuel used. Nevertheless, versatility of fuel requirements permits use of any available fuel in any field location.

Although development of this type engine has reportedly progressed to satisfy the needs of the military, there are no immediate plans to offer a multifuel powerplant for passenger cars.

The company reports that most



Demonstrating Detroit Diesel's multifuel engine. Lever allows operator to switch fuel types

**You'll do hundreds of jobs
easier and faster with all**

5

CHANNELLOCKS

Now you can choose the right size Channellock for every job... big and tough... small and hard-to-get-at. Your choice of jaw capacities: $\frac{1}{2}$, $\frac{3}{8}$, $1\frac{1}{2}$, 2 and $2\frac{1}{4}$ inches. And each of these 5 sizes gives you the powerful parallel-jaw grip and the tremendous leverage which make Channellock the favorite plier of mechanics everywhere. Choose all 5... use all 5... you'll do hundreds of jobs easier, faster. Be sure it's a genuine Channellock... look for the trade mark on the handle.

CHAN NEL LOCK

CHAMPION BARMENT TOOL CO.
Hendville, Penna.

of its engines now in service could be converted for multifuel operation by changing only three basic assemblies, and providing a primary fuel pump.

New engines for the military have 23-to-1 compression ratios and are adaptations of standard "V" and "in-line" models.

Is It Legal?

continued from page 86

he didn't know that he was lying.

"The customer asked the question. It was important to the customer. There was a difference in the models. One was better and was worth more money. The dealer answered that the car was the better model. It was actually the cheaper model.

"The case would be different if there was no practical difference between the models. Then, the representation would not be material.

"The case would also be different if the dealer, when he made the representation, actually believed that the representation was true and had reasonable ground for such belief. For example, the car might have had deceptive markings or identification signs which misled the dealer.

"But in this case, on his own admission, and it is quite clear anyway, the dealer did not know to which series the automobile belonged, but nevertheless made a representation that it belonged to the more costly group. The buyer believed and bought. This is a simple swindle and the buyer is entitled to his damages."

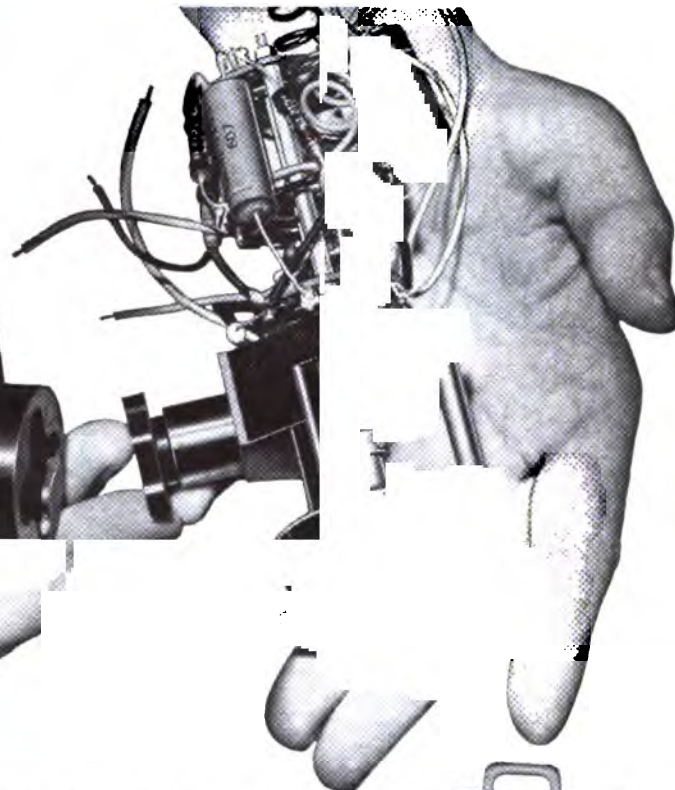
Based on case reported in 340 S.W. 2d at page 435 (Mo.)

For Really Quick Service



Auto Ranger's "Built-In Brains" make tune-up Fast... Simple... Easy

■ Yes Sir! This is the easiest to use, fastest, simplest and most accurate tune-up equipment *bar none!* Don't take our word for it...ask any mechanic who uses it. Or to convince yourself have your Jobber's salesman give you a demonstration. You'll be glad you did. With Auto Ranger you can do more tests, more accurately and in less time. *It's practical and profitable.* Right from the start, Auto Ranger lets you put more cars in top running order with the greatest of ease. Try it. Call your Jobber today.



TDI—Tach, Dwell, Ignition Tester. With 1 hook-up make these Ignition and Carburetor tests: 1—Dynamic Point Resistance, 2—Dwell, 3—Distributor Wear, 4—Engine Idle Speed, 5—Carburetor Idle Mixture, 6—Ignition Miss, 7—Ignition Output.



CBS—Charging, Battery and Starter Tester. Do a complete job of trouble shooting and servicing 6, 12, 24 and 32 volt AC and DC charging, battery and starter systems. Tests are automatically set-up by turn of a knob.



CCM—Condenser, Coil, Magneto Tester. With this one instrument the average mechanic with no special training can test Condensers, Coils, Magnetos and Electrical Components on all types of ignition systems of any type of gasoline engine.



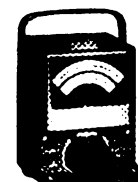
GRT—Generator, Regulator Tester. Makes all charging system tests almost automatic. As easy as A, B, C: One hook-up (GRT automatically verifies correctness). A—Select test, B—Turn Knob, C—Read Meter. That's all!



TD—Tach, Dwell Tester. Ultra simplified! For work on all 6 and 12 volt systems of 4, 6 and 8 cylinder engines. Use it for: 1—Distributor Testing and Servicing, 2—Idle Speed Adjustment, 3—Carburetor Idle Mixture Settings.



BL—Battery Loader. For 6 and 12 volt systems. Checks Cranking and Operating voltages. Tests for: 1—Battery Leakage, 2—Battery Capacity and Condition, 3—Starter Amperage Draw, 4—Resistance of Cables, Switches and Connections.



FLUID FLOWS THROUGH BRUSHES

TO MAKE PARTS

CLEANING EASIER

AND FASTER

THAN EVER

BEFORE!

NEW
WI-TO-CO
PARTS CLEANER

Fluid flows through a nylon brush, a steel brush, and a flexible spout to make parts cleaning easier and faster than ever before with a Wi-To-Co Parts Cleaner. A valve directs fluid through one of three flexible arms. A new, mesh bottom basket makes it easier to clean and harder to lose small parts.

The extremely large and efficient filtering system saves fluid, pays for itself in a hurry. Automatic transmission and other parts come out microscopically clean! Only \$218.35 list! Write today!

WINONA TOOL MFG. CO.

WINONA, MINNESOTA, U. S. A.

Rimac HEXSET NO. 777
Taps and Dies that cover the Autofront!

- **ALL DIES HEX**—for use with standard wrenches. Assures positive grip.
- **17 TAPS AND 17 DIES**—to handle all the jobs.
- **3 TAP WRENCHES**—for efficiency in any size.
- **2 DIE STOCKS**—1" Hex; ¾" Hex.
- **11 FRACTIONAL SIZES**—¼ to ½ NF and NC, ⅜" Pipe.
- **6 MACHINE SCREW SIZES**—needed in the repair shop.



• **SMART MAROON CHEST**—strong, light and compact. Molded of durable polyethylene plastic.

Ask your jobber or write for literature:

RINCK-McILWAINE, INC.
16 Hudson Street
New York 13, N. Y.

Rimac ... SPECIALISTS IN FINE TOOLS FOR AUTOMOBILE MECHANICS

Capital Close-Ups

continued from page 49

buying by the public. Many a motorist caught with an old car when production was halted in World War II will seek to avoid a similar fate.

Repair volume should also rise, for the same reasons. People who cannot afford a new car will seek to take better care of what they have. Prices are likely to inch upward too, thereby improving the profit picture. A 1962 business boom is being foreseen by government forecasters.

Army to Test New Amphibian

"Neither snow nor rain nor heat nor gloom of night . . ." shall stay the Army's new rubber-tracked vehicle P-A-T from completion of its rounds. Nor will mud, hard-packed surface, water or soft tundra. Utilizing a new concept of transportation, the revolutionary new vehicle operates on a continuous track of rubber-impregnated cells filled with low pressure air. This permits it to travel over soft terrain or water with equal facility.

Dubbed PAT, for Plenum Air Track, the vehicle has an air supply chamber (plenum) which replaces air automatically if pressure is lost. The cells become self-sealing if punctured. Advance estimates call for PAT to travel about 50 mph over highways and 10 mph over water, or twice the speed of present amphibians. Experiments will get under way at Fort Eustis, Va., shortly. Chance Vought Corp. has been awarded a \$20,000 Army contract.

Africans to See Repairshop

A try-it-yourself repairshop will feature a U.S. Dept. of Commerce exhibit to be staged in November at Accra, Ghana. Practical instruction in use of American tools and techniques will be offered, with students graded on workmanship. Also on display will be miniature machine, sheet metal, woodworking, and heat-treating shops.

Elsewhere on the show-it-abroad schedule, Ford's T-Bird is included in a transportation exhibit to be opened by USIA in Moscow later this month. In October, Commerce will unveil a complete automobile repair show at the Peruvian Fair at Lima, plus a tire recapping plant. A similar display will go to New Delhi, India, in November.

Big Business Foe

A veteran crusader against big business, A. Everette MacIntyre, now Counsel of the House Small Business Committee, will become a member of the Federal Trade Commission on September 26. MacIntyre's nomination was announced months ago by President Kennedy and the Senate obliged by confirming him eight weeks before the vacancy occurs. Commissioner MacIntyre will replace Robert T. Secrest, a former Republican Congressman. Of course, MacIntyre is a Democrat. He has made a career of fighting big business, having served on the FTC staff before taking refuge on Capitol Hill during the Eisenhower administration. MacIntyre is a protege of

[CONTINUED ON PAGE 213]

Capital Close-Ups

continued from page 210

Rep. Wright Patman (D., Tex.), perennial Chairman of the House Small Business Committee.

U.S. Orders Blow-by Controls

Devices to reduce crankcase fumes by routing blow-by to the intake manifold will be required equipment on all cars purchased by the U.S., starting with 1962 models. Uncle Sam's purchasing agency, General Services Administration, has also decreed that federally purchased cars must be fitted with seat-belt anchors on both front and rear seats. Factory installation of anchors is expected to cut the cost of adding belts from as high as \$20 to as low as \$3.50.

Major car makers are planning belt attachments on front seats only on new models, so cars sold to the J.S. will require special treatment.

Shorts

U.S. Dept. of Agriculture will issue this fall or winter results of a survey taken by the Census Bureau last May on the "average service life" of cars. Goal is to produce information to allow households to know in advance when a car replacement will be needed. . . American Motors landed a \$3,600,000 Army contract for 1,232 "Mighty Mite" trucks, to be used by the Marine Corps.

THE END. NOW TURN BACK TO PAGE 50

NEWSFLASH!

WYNN'S SPONSORS

"BEN
CASEY"

EXCITING NEW

NIGHTTIME NETWORK TV SHOW

ABC-TV's great new hour-long hospital drama series, "Ben Casey," starring Vincent Edwards, will start selling your customers Wynn's Friction Proofing products in October. All the more reason you should stock up on the fast-selling Wynn's line now! Check your local TV listings for the "Ben Casey" starting date, time and channel in your area.



TRADE MARK

Here's ready-made **FIRST AID** **FOR SLIPPERY FLOORS!**



AUTO-DRI... is an economical prescription against accidents. Your broom brigade easily spreads this carpet-of-safety on with rake or broom... the thirsty granules instantly soak up oil, grease, liquids... pull deep deposits out of floor. Leave AUTO-DRI on, or remove and reuse until saturated. AUTO-DRI is mineral... won't burn. Costs only a fraction of a cent per sq. ft. of protection!

Write for
generous
**FREE
SAMPLE**



• SPEEDI-DRI DIVISION

Minerals & Chemicals Philipp CORPORATION

216 ESSEX TURNPIKE

MENLO PARK, NEW JERSEY

Now! Faster Edging of

AUTO GLASS

Write
for
PRICES



**Plus 60% Increase
in Belt Life . . .**

Sensational new Contact Rubber Roller Platen gives longer belt life, faster, smoother edging without chipping. Electrically Controlled Water Valve automatically opens and shuts with operation of motor.

Model No.
106-FB12RP

Standard of the Glass Shop Trade—
Several Thousand in Operation

SOMMER & MACA Glass Machinery Co.

Automotive Department

5525 WEST OGDEN AVENUE, CHICAGO 50, ILLINOIS

Comet Emphasizes Quiet

continued from page 51

plated with tin instead of chrome.

The valve seat for the carburetor float needle is now made of plastic, which can envelop small particles of dirt, preventing flooding caused when the needle valve is held off its seat. A single bolt holds the air cleaner on the carburetor. The fast idle cam has been altered to prevent excessive engine speed on cold starts.

Extend Service Periods

The factory-fill coolant is suitable for year-around use in temperatures as low as 35 deg. below zero and is said to be effective for 30,000 miles or two years. The life of the fuel-filter element has been extended from 12,000 to 30,000 miles. Recommended oil-drain period is now 6,000 miles. The bypass valve has been moved from the bottom to the top of the filter to prevent circulation of sludge should the filter become clogged.

The starter has been made small-

er and quieter. Generator capacity has been increased from 25 to 30 amp. A rubber shield over the commutator end protects it from dirt and water. Brushes are mounted in a trailing position to reduce noise.

Manual transmissions incorporate an interlock in the linkage which prevents engagement of first or reverse gears until the clutch is completely released. The lever has been lengthened and linkage revised for easier shifting. The throttle valve on the automatic transmission is now controlled by manifold vacuum instead of throttle linkage. Throttle linkage adjustment, therefore, is eliminated.

Brake drums are honed to reduce noise and roughness, particularly on light applications. Additional slots in the wheel-bearing nuts permit finer bearing adjustment. Two-ply tires are standard on all models.

The sound-deadening package, first introduced on the S-22, is now used in all models. Glass fiber hood insulation, triple-layer floor insulation and factory undercoating com-

MAJOR DATA

	Sedans	Station Wagon
Displacement	144 cu. in.*	144 cu.
Bore and stroke	3.50x2.50 in.	3.50x2.1
Horsepower	85 @ 4,200	85 @ 4
Torque	134 @ 2,000	134 @
Compression ratio	8.7:1	8.7:1
Wheelbase	114 in.	109.5 in.
Over-all length	194.8 in.	191.8 in.
Height	54.5 in.	55 in.

*Optional 170 cu. in. engine has 3.50 x 2.94 bore and stroke, develops 101 hp at 4,400 rpm and 156 lb.-ft. of torque at 2,400

bine with sound deadener in parts of the unitized body to out engine, road and wind noise. THE END. NOW TURN BACK TO PA

Forms New Unit

A Product Diversification Unit has been created by Lyon Products, Inc. Besides investigating new products, the new department will make market, sales, production and other studies in connection with these products.

NEW!

completely modern...
accurate!
NIEHOFF ignition
testing equipment

All new, all the way through... from the sleek, modern styling of their durable outer cabinets to their built-in accuracy. This new NIEHOFF ignition testing equipment was developed to make you and your station a tune-up leader. You'll like their compactness, easy-to-read dials, simple controls, convenient handles, long trouble-free performance.

Your BEST OFF with NIEHOFF!

See the complete line of NIEHOFF Ignition Parts and Testing Equipment at your NIEHOFF Jobber—or write direct today.

NIEHOFF

AUTOMOTIVE PRODUCTS

C. E. NIEHOFF & CO. • 4925 W. Lawrence Ave. • Chicago 30, Illinois
Branch: 1330 West Olympic Blvd., Los Angeles 15, California



ust System Service Time

ued from page 60

cuts power and overheats the e. Tools for rounding or exng pipe ends are available for ing tailpipe ends to their al roundness.

ore checking for leakage or tions, run the engine until it es normal operating tempera- Test the manifold heat con- alve for proper functioning to e both sides of a dual system rrying their proper portion aust gases.

elerate the engine sharply l times. High-frequency rat- ming from a muffler indicate or broken baffle plates, while r vibration may be caused ounding of the muffler or on the frame or body as the e rocks on its mounts. Whis- enote leakage.

h the engine running, watch oke at all joints. Pay partic- attention to the slots in the r at both inlet and outlet ctions. Leakage will occur

here if the pipes do not overlap these slots. For a positive leakage test, partially restrict the end of the tailpipe. Rapid build-up of pressure in the system will force smoke out of the smallest crack or hole. Exhaust smoke will be easier to detect if you squirt a small quantity of oil or kerosene into the carburetor air intake.

To check for restrictions, hold your hand close to the exhaust pipe and move it slowly past the muffler and tailpipe. If there is a noticeable drop in temperature at any one point, look for a restriction there.

Position Correctly

A new muffler or resonator should be inspected before installation to determine whether it has a drain hole. If it does, be sure the hole is correctly positioned at the bottom during installation.

Application of muffler-sealing compound or a non-hardening gasket cement around pipe and muffler ends before joining together makes installation easier as well as providing a leakproof joint.

Alignment and clearance of the exhaust system is particularly critical on the newer cars with complex pipe shapes. If any part of the system is in direct contact with body or frame members, the exhaust impulses within the pipe or muffler cause annoying vibration. On some systems, ball-shaped joints are used to permit easier alignment.

One method of aligning newly installed pipes and mufflers to obtain clearance with other underbody components is to start the engine after the various members have been assembled and brackets and hangers loosely installed. Final tightening of clamp bolts and required adjustment for clearance is then made with engine running so that possible points of contact are more readily seen or heard as the loose pipes vibrate.

THE END. NOW TURN BACK TO PAGE 61

Can You Name It?

Answer to question on page 161

This was the first Chrysler, a 1924 model.



NEW!
sales merchandising
cabinets! new
ignition assortments!

Completely new, functionally designed merchandising cabinets, handsomely styled to compliment your station. Each cabinet can be locked, features streamlined stock control and can be hung on wall or placed on modern legs. Service stocks are made up of the fastest turnover items selected to give you quick return on your investment.

Every assortment has free gift pack that more than covers cost of cabinets. In addition NIEHOFF supplies easy-to-use tune-up manuals, banners, posters, decals, signs, charts, catalogs and bulletins.

Your BEST OFF With NIEHOFF

See complete line of NIEHOFF Ignition Parts and Testing Equipment at your NIEHOFF jobber or write direct today.

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Branch: 1330 W. Olympic Blvd., Los Angeles 15, Calif.

Lincoln Easier to Maintain

continued from page 65

maintain more uniform contact with the commutator, reduce noise. All generators are run in before installation in the car.

The starter-motor drive gear is positively aligned with the flywheel ring gear by mounting the motor on a steel plate, doweled to the flywheel housing. More accurate meshing of the gears reduces starter noise.

The hydraulic windshield wiper, introduced in 1961, has been simplified. The regulator valve is now located in the motor housing, eliminating three hoses and six connections.

Steadier speedometer readings and a reduction in noise come from the use of a new kink-free cable. The wound core has been enlarged and now rotates inside a nylon tube. A steel wire shield, covered with vinyl, protects the core and tube. The cable is lubricated for life.

MAJOR DATA

Displacement	430 cu. in.
Bore and stroke	4.30 x 3.70 in.
Horsepower	300 @ 4,100
Torque	465 @ 2,000
Compression ratio	10:1
Wheelbase	123 in.
Over-all length	213 in.
Height	53.7 in.

A new processing of brake drums is said to prevent distortion and consequent noise and erratic braking. After casting and rough machining, the drums are annealed for one hour at 900 deg. to eliminate any internal stresses. After two light cuts, the drums are balanced, then given a final finish cut and two-directional honing.

Brake-shoe ledges are chrome-plated to resist wear and prevent binding of the shoes on the backing plate. Parking-brake conduits are nylon-lined to reduce friction and prevent corrosion.

Each wheel hub has a machined pilot which fits inside a matching pilot hole in the wheel. This construction assures concentricity of the wheel on the hub.

Front shock absorbers have been recalibrated to provide more effective control of front-end float at high speed. Piston diameter of the rear shocks in the sedan has been increased from $1\frac{3}{16}$ in. to $1\frac{5}{8}$ in., matching the size of those in the convertible. All-weather fluid is used.

New seals on the steering gear



GET HOT WITH EVERHOT'S BAKER'S DOZEN BONUS DEAL!

Now you can get into the big power steering hose replacement market — with little investment and little space — with Everhot's big BONUS DEAL! In one complete package, you get . . .

12 fast-moving Everflex UNIVERSAL Power Steering Pressure hoses that will replace 65 original equipment-type hoses!

BONUS! 1 additional UNIVERSAL Hose, which covers 15 popular hoses!

BONUS! 1 Valor Automatic Electric Can Opener made by Roto-Broil. A \$24.95 value!

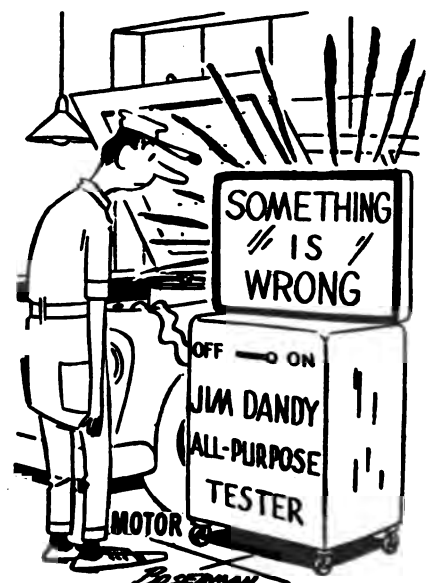
1 window-size banner telling motorists that you sell and service Power Steering Hoses!

You'll get all this at a saving of \$24.90! You'll make \$48.55 in profits when you sell the hoses! You'll enjoy the bonus of your Automatic Electric Can Opener!

Don't wait! Call your Everhot Jobber today for full details, or write to:

Everflex UNIVERSAL Power Steering Hoses are engineered so that a single hose fits several models of cars and trucks. 80 original equipment-type hoses would be needed to give the same coverage that the Baker's Dozen Assortment provides . . . and would cost you four times as much!

EVERHOT PRODUCTS COMPANY
2001 W. Carroll Ave. • Chicago 12, Illinois



MOTOR, September 1961

and an improved side-cover gasket lessen the chances of power steering leakage.

A shroud has been added to the thermostatically controlled fan used on air-conditioned cars to improve cooling when driving in heavy traffic. Torque capacity of the air-conditioning compressor clutch has been doubled. Lubrication of the compressor is more effective due to a new oil pump.

A fixed air-conditioning outlet replaces the swing-down type used in the 1961 model. This change results in more leg room for the center passenger in the front seat. Adjustable vanes control the flow of air to the front-seat occupants and direct part of it to the ceiling for cooling of the rear compartment.

Power windows, which are standard, have stainless steel shafts and a coating of latex rubber to prevent corrosion. Radio, heater, power steering, power brakes, automatic transmission and padded dash also are standard.

THE END. NOW TURN BACK TO PAGE 66

Build Demand For Better Handling

continued from page 63

misaligned. Caster and camber settings cannot be held within specified limits if the ball joints are loose. Nor can it be expected that the settings will mean anything if the frame is twisted or has been forced into a diamond shape.

This necessary care extends also to the preparations for making a check. Care should be taken to see that all tires are fully inflated and in condition and that the car is level and at the correct height.

Shock absorbers should be working properly, since the rise and fall of the wheels when the car is moving constantly changes the camber. Uncontrolled movement leads to excessive tire wear. Wheel runout also should be checked to be sure it is within allowable limits— $\frac{1}{8}$ in. in most cases but as little as $\frac{1}{16}$ in. in others.

Tires and wheels necessarily should be in balance. Testing equipment, of course, should be in top shape.

Some shops consider it good practice before making adjustments to caster or camber to check

the kingpin or ball-joint inclination. This is a matter of preference, because camber and ball-joint inclination are interrelated.

No adjustment of inclination is possible on today's cars. If the relationship between camber and ball-joint inclination is found to vary from the car maker's specifications, damage to some part is indicated and the unit must be replaced.

Should it be found impossible to adjust the camber to the specified setting, but the inclination is correct, the repairman can be sure

the steering knuckle is bent. If both camber and inclination vary from specifications by about the same amount, one of the control arms is bent. Bent parts in the front-end and steering systems should always be replaced.

Shock absorbers likewise must be replaced if the check previously mentioned shows them to be defective. No amount of work on the steering gear or geometry will improve handling if the shocks let the wheels bounce all over the

[CONTINUED ON PAGE 218]

Stop Hard Starting and Stalling with **STEWART-WARNER ELECTRIC FUEL PUMPS**

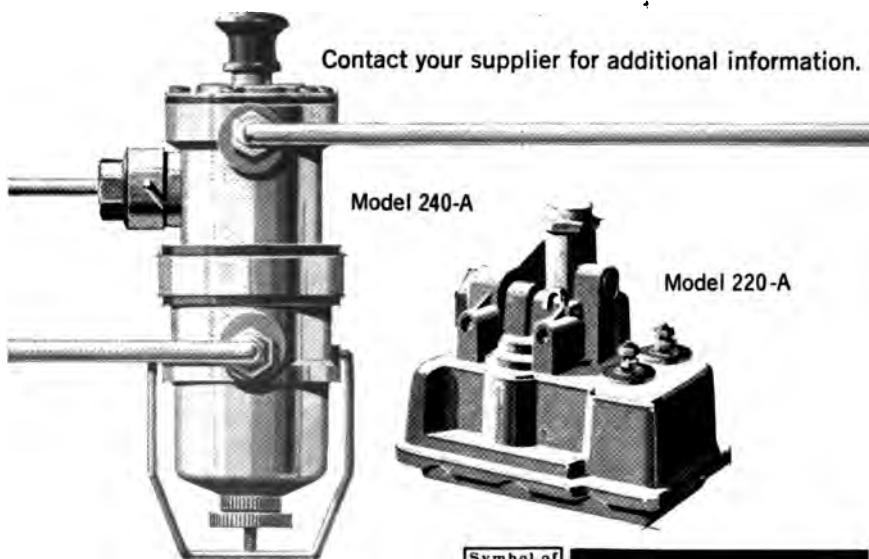
Now you can use the weather for your profit. Help your customers avoid hard cold weather starting... hot weather vapor-lock stalls. Recommend and install a Stewart-Warner Electric Fuel Pump. Prevents surging and flooding, assures a constant flow of fuel under all temperature conditions.

Choose the model that fits the purpose best. The high capacity 240-A delivers up to 60 gallons per hour with

pressures adjustable up to 8 p.s.i. A built-in filter eliminates the need for any other filter in the system.

The popular 220 is ideal for use where 20 gallons per hour is the maximum delivery requirement and pressure requirements are not critical. Efficient, dependable, trouble-free. Stewart-Warner Electric Fuel Pumps are available for 6 and 12 volt systems for all gasoline engines.

Contact your supplier for additional information.



**INSTRUMENT DIVISION
STEWART-WARNER
CORPORATION**

Dept. X-91, 1840 Diversey Parkway, Chicago 14, Ill.

Build Demand For Better Handling

continued from page 217

road. Poor handling, customers must be told, can frequently lead to accidents.

Steering gear checks, at least of the linkage, are relatively simple. Wheel bearings ought to be checked for looseness, and adjusted if necessary.

A defective wheel bearing can be checked quickly, without remov-

ing the wheel, by using a torque wrench. Tighten the bearing-adjustment nut to 30 lb.-ft. while rotating the wheel. Then back off the nut and retorque it to 5 lb.-ft. on ball bearings or 7 lb.-ft. on tapered roller bearings. Maintain this torque and rotate the wheel. If torque reading oscillates when the wheel is rotated, the bearing or bearing cap is defective.

Also to be checked for looseness are the steering linkage ball studs, steering arms, tie rods and drag link. Check the pitman shaft to

make sure the lash is not excessive and that the pitman arm is not loose on the shaft.

Be sure the steering wheel is not loose on its shaft and that the worm bearings are in proper adjustment.

It is important in making any adjustment to the steering gear that there is no load on it. If any part is under stress, adjustment cannot be accurate.

If steering and front-end are carefully checked for wear, looseness, damage or maladjustment, and the indicated adjustments or replacements made, the customer's car should be able to see him through weeks of reasonably tough going. This does not mean he cannot be sold front-end work again before spring because many unforeseen happenings can throw the front end out of kilter.

A careful check does mean, though, that the shop has tried its best to protect the customer against failure. A surprising number of customers appreciate the thoughtfulness.

THE END. NOW TURN BACK TO PAGE 64



**NEW
ARMSTRONG
CATALOG**

Quality Tools for Industry

New ARMSTRONG General Catalog #700, showing the complete ARMSTRONG Line, has been released. This catalog lists approximately 330 tools that have not been included in previous ARMSTRONG Catalogs.

Additions have been made in the following categories:

- Tool Holders
- Set-Up-and-Hold-Down Tools
- Tool Bits
- Wrenches
- Ratchet Wrenches and Sockets
- Miscellaneous Hand Tools
- Pipe Tools

Get your free ARMSTRONG Catalog No. 700 showing these important additions, as well as the thousands of other tools included in the ARMSTRONG Line. The catalog is a necessity for anyone who uses or buys hand tools or shop tools. Write direct, or phone your local ARMSTRONG Distributor (who has a supply of new catalogs on hand). If you do not know which distributor in your area carries the ARMSTRONG Line, we will be glad to supply this information upon request.

ARMSTRONG BROS. TOOL CO. 5260 W. ARMSTRONG AVE.
CHICAGO 46, ILLINOIS

How Would YOU Fix It?

Answer to problem on page 84

► The repairman knew that a possible cause of poor high-speed performance is a restricted exhaust. He also knew that on this car the exhaust pipe is of laminated construction, with a small pipe pressed inside a larger pipe. The outer unit had a normal appearance but when the inner pipe was checked, a restriction was found.

The check for a restriction in the smaller pipe was made by rolling a 1 in. ball through it. When the restriction had been eliminated, normal performance was restored.

Seat Belt Council Elects Pulley

The newly formed American Seat Belt Council, meeting recently at Las Vegas, Nev., adopted formal bylaws, a basic budget for administrative and operating expenses, and elected officers. C. H. Pulley, president of Irving Air Chute Co., was elected president.

Other officers are Russell J. Neff, first vice president and R. C. Brown, second vice president.

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Every filter element is fully guaranteed to exceed original equipment specifications **BY FAR.** You can sell every customer . . . oil, air, fuel filters for all U.S. and imported cars, trucks, tractors . . . means no dual inventory. Over 375 numbers available from your distributor.

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Kearney, Nebraska

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Here's a complete line of chargers with automatic, built-in alternator protection. New, safe, they provide complete protection against damage to wiring harness, alternator and diodes. Exclusive Fox transistorized circuit assures that charger always operates, when properly connected. Even when battery is flat, protection is never switched off nor are additional batteries needed.

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with a **Safetronic®**
ALTERNATOR PROTECTOR

Model 120—mounts on most
chargers. Easily connected.
Signal light indicates trouble.



Dual Headlights for Singer



Dual headlights and de luxe trim distinguish this new Singer Vogue. Displacement is up to 97.1 cu. in. Power is now 66 hp at 4,800 rpm

Heater Service A Fall Natural

continued from page 61

knob on dash to within 1/16 to 1/8 in. of its lowest position, then tighten cable. Should hot air still come from outlets, water valve is leaking and should be replaced.

A more positive check of the valve is to put the control in the "Off" position, remove the radiator pressure cap and disconnect the outlet hose from the heater core. If no water comes from the heater outlet when the engine is started, the valve is sealing properly.

When the control is set correctly in the "Off" position, check heater operation throughout the rest of the range. As the control is moved toward the highest setting, the air coming from the outlets should get progressively hotter. If it does not, check the temperature of the heater outlet hose with your hand. If it is cool, either the heater core is clogged or the water temperature control valve is defective. Remove the valve and flush the core. If water flows freely through it, the trouble is in the valve. If not, the core is clogged.

Some cars are equipped with a shut-off valve at the engine. Be sure this valve is open when testing the heating system.

Several late-model Ford products use heaters in which temperature is regulated by varying the proportion of hot and cold air entering a blending chamber. A damper directs a portion of the air through the heater core, the amount depending upon the setting of the

control knob. While this heater differs in operation from those employing a water valve, the temperature-control cable is adjusted in the same manner.

Even when blowers operate properly and water in the heater gets hot enough, output may still be insufficient to provide a comfortable temperature in cold weather. In this case, inspect the dampers to be sure they are in the proper position when the dash control is turned to "Heat." The usual method of adjustment is to loosen the cable at the damper crank, place the damper and the dash control in the proper positions and tighten the cable. Be sure that ventilation dampers are adjusted to close completely when the control is in the closed position.

When Damper Fails

In some heating systems, dampers are operated by vacuum servos. If a damper fails to work, disconnect the vacuum line at the servo, turn the dash control to the proper position and put your finger over the end of the hose. If you do not feel a vacuum, check the line back to its source to find out if it is pinched or torn. Also check for vacuum at the control valve end. Dirt inside the valve could cause clogging of outlet. Operate dampers by hand to check for binding.

After you have checked out the heater and made any necessary adjustments or repairs, try the defroster. Since the blower has already been tested, insufficient air flow at the defroster outlets is due to inoperative or improperly adjusted dampers, disconnected or

leaking defroster hoses, or obstructions in the outlets. Check and adjust the defroster damper in the same manner as the heater dampers. Be sure the hoses are tightly fastened and aligned with outlets.

Some Corvairs and Chrysler Corp. cars of recent years are equipped with gasoline heaters. Check the operation of these units in all blower speeds and throughout the temperature range. Remember that these heaters have two blowers, one of which circulates the air in the passenger compartment, while the other supplies air to the combustion chamber. Both should start immediately when the heater is turned on. If black smoke and the odor of raw gasoline come from the heater exhaust pipe, check the speed of the combustion blower. Corvair specifies a blower speed of 2,700 rpm.

If the heater fails to ignite, the most likely cause is the ignition system. For a quick test of coil, condenser and breaker points, connect a high-tension lead from the coil to a spark plug gapped at .085 in. With the plug grounded, turn

on the ignition switch and heater, but do not start the engine. You should get a hot spark at the plug. The breaker points are attached to the combustion blower rotor, which must be removed for servicing points or condenser.

Cause of Trouble

A fouled spark plug can cause a popping noise when the heater ignites or, in extreme cases, it can cause ignition failure. To remove carbon fouling without taking out the plug, hold the high-tension lead of the coil about 1/4 in. from its terminal, set heat control at its highest position and start the heater. Inserting this resistance gap in the circuit results in a higher build-up of voltage, burning the carbon bridge from between the electrodes.

When the ignition system checks out but the heater still fails to ignite, inspect the fuel solenoid and valve and check flow of fuel to the heater. All switches and relays in the heater circuit can be checked in the usual manner with a test light in the event unit fails to operate. THE END. NOW TURN BACK TO PAGE 62

More Groups Join IGOA

Evansville, Ind., with 46 shops, has joined the Independent Garage Owners of America.

New Bedford, Mass., Garage Owners, numbering 45, have formed the IGO of New Bedford, with Roger Goyette as president. This replaces a former unit in New Bedford. A second Massachusetts unit has been formed at Fitchburg. Ralph Courtemanche is president.

A unit has been formed in Manchester, N. H., with 20 garage owners as members.

A quarterly conference of the executive board will be held at Davenport, Ia., Oct 6-8, at the time of the Iowa IGO convention.

Ralph James, executive secretary, will make a four-week tour of Southern and New England states this month.

IGO-Iowa to Meet

The third annual state convention of Independent Garage Owners-Iowa will be held in Davenport from Oct. 6-8. Arrangements are being made to line up speakers.

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MORE CAR BODY SURFACES get their finishing touches from Heller Vixen Files than any other brand. That's because their exclusive undercut teeth remove metal faster while the forward curve, deep gullets and wide pitch keep teeth clear for smooth, scratch free finishes.

ASK YOUR HELLER DISTRIBUTOR to demonstrate VIXEN File superiority. He'll also show you the Heller Hack Saws, American Pattern Files and Automotive Hammers preferred by top body repair shops from coast to coast. Why not "holler for Heller" today?

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Powerful air cylinder pulls strong, one piece Nylon belt tight to compress tire all the way around and seat beads quickly. Adjusts to any tire from passenger to off-the-road by pulling belt snug and locking with aircraft type safety buckle. Air applies with regular air chuck. Light weight, easily portable. BISHMAN #943 AIR POWER Bead Expander.



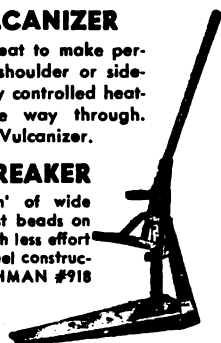
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Patented 'Rolling Action' of wide circle shoe breaks tightest beads on wheels 13" through 16" with less effort than old types. Rugged steel construction, easily portable. BISHMAN #918 Giant Bead Breaker.



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Cleans carburetors, transmission parts, carbonized parts . . . easier, faster!

HI-T DEGREASOL
A safe, NON-TOXIC, rapid cleaning, quick-drying fluid used cold. Removes grease, oil, sludge, dirt from parts!

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New York 19, N. Y.

Pontiac Adds Grand Prix

continued from page 67

by the exhaust and new transfer fins to increase heating efficiency, providing for faster warm-ups and fuel economy on cold starts.

The two-barrel carburetor on the basic V-8 with Hydra-Matic has been recalibrated to cut fuel loss during warm-up and four-barrel carburetors have been redesigned to give better control of the fuel flow.

New engine mounts are said to reduce vibration. New throttle linkage, utilizing a cross shaft, is designed to prevent engine movement from affecting the throttle position.

Tapered, roller-type front wheel bearings, previously available only on police cars and heavy-duty applications, have been made standard on all models to give greater shock resistance and improve thrust load capacity of the front suspension. Rubber suspension control-arm bushings in both front and rear systems have more cushioning capacity to isolate shock and noise created by rough roads.

Changes Simplify Service

The new model incorporates a number of changes aimed at reducing maintenance cost and simplifying service. The chassis lubrication period has been extended from 2,000 miles or two months to 35,000 miles under favorable operating conditions. Drainage of crankcase oil is no longer needed at the first 1,000 miles; regular changes are recommended every 4,000 miles. As in Tempest, the distributor has a built-in reservoir and wick oiling system to provide permanent lubrication.

Service on power brakes has been simplified by redesigning the power cylinder with a vacuum reserve chamber within the unit and an integral check valve. Only one vacuum hose is used and the external reserve tank has been eliminated, reducing the chance of leakage. A drain passage with a filtered vent isolates the vacuum and hydraulic systems.

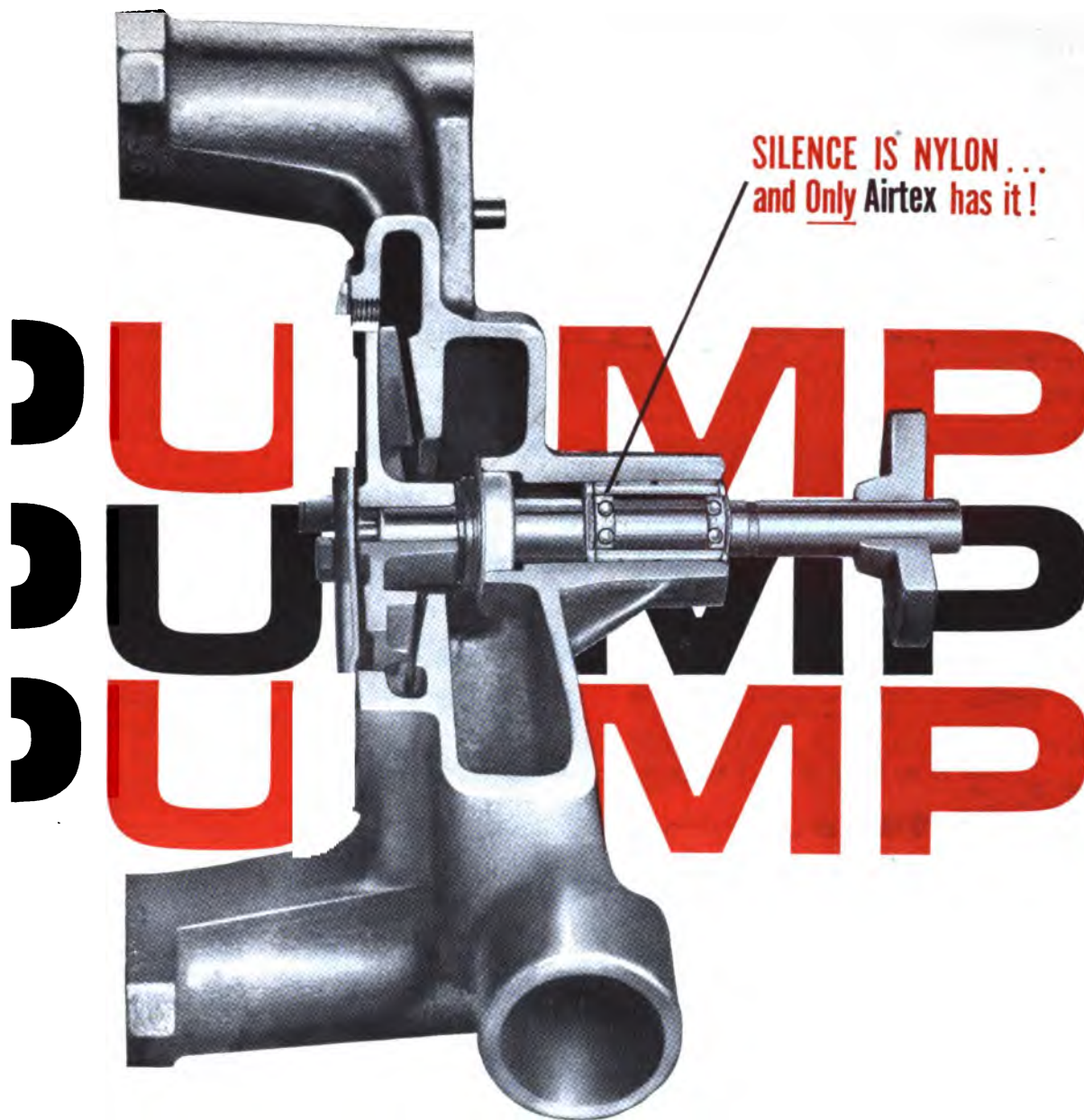
On the styling side, Pontiac has a new roof line, change in front profile, new grille and redesigned rear.

MAJOR DATA

	Star Chief	Catalina	Bonneville	Grand Prix
Displacement	389 cu. in.	389 cu. in.	389 cu. in.	389 cu. in.
Bore and stroke	4.06 x 3.75 in.	4.06 x 3.75 in.	4.06 x 3.75 in.	4.06 x 3.75 in.
Horsepower	215 @ 3600*	235 @ 3600†	303 @ 4500	303 @ 4500
Torque	390 @ 2000	402 @ 2000	425 @ 2800	425 @ 2800
Compression ratio	8.6:1	8.6:1	10.25:1	10.25:1
Wheelbase	120 in.*	123 in.	120 in.	120 in.
Over-all length†	211.6 in.†	218.6 in.	211.6 in.	211.6 in.
Height‡	54.5 in.	54.5 in.	54.5 in.	54.5 in.

*With Hydra-Matic Star Chief has 283 hp, Catalina 267 hp, with 2-barrel carburetors and 10.25:1 compression
†303 hp with 4-barrel carburetor and 10.25:1 compression ratio
*Star Chief 123 in.
†Star Chief 218.6 in.
‡All wagons 211.4 in.
‡Two-door hardtops; all wagons 56.9 in.

THE END. NOW TURN BACK TO PAGE 68



SILENCE IS NYLON...
and Only Airtex has it!

*and they do...
year after year!*

Why do Airtex Water Pumps outlast all others? The answer is NYLON! Only Airtex incorporates NYLON in the manufacture of the bearing assembly (note illustration above) . . . furnishes an all NYLON ball retainer. Result: No squeaky, squealing pumps . . . Airtex pumps are *noiseless*; Lubrication? NYLON requires none! Efficiency? The longer Airtex pumps run the more efficient the bearing becomes—again thanks to the NYLON retainer.

Install NYLON Airtex . . . the best water pump made . . . they'll give you pumping performance unmatched year after year.

Ask your AIRTEX JOBBER
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Corning Ware percolator.
It's yours free with the
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AIRTEX

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september 1961

223

Do the Whole Brake Job

continued from page 49

or worse and fluid that does not meet SAE heavy-duty specifications. Such tactics are perilous both to the car on which the cheap parts are installed and to good customer relations. In several states, heavy-duty fluid is required by law.

Even when quality material is bought and installed by the shop, it is not enough to turn in the old shoes for a set of relined ones. The

condition of the whole brake layout on each wheel must be inspected closely. It goes without saying that the shoe must conform to the drum, with only the center touching the drum initially. The exchange shoe should be free of warping or distortion.

Not enough attention is paid to the backing plate in many shops. Anything amiss here can lead to noisy operation or erratic braking. Any accumulated dirt should be blown off the mechanism and the plate inspected for possible groov-

ing, due to insufficient lubrication. Grooves, as experienced mechanics know, will not let the shoes retract after application.

The backing plate, for a dependable job, should be torqued to overcome possible looseness. On Chrysler-built cars, any loose anchors should be peened to tighten them and the platforms on the backing plate should be checked for uniform height. Variation in height should be limited to .010 in.

Sometimes the old shoes, or even an occasional exchange unit, will have nicks or burrs on the edge. If these are on the backing-plate side, they will cause the shoe to stick. It is a simple matter to remove them with a stone.

More Than Leaks

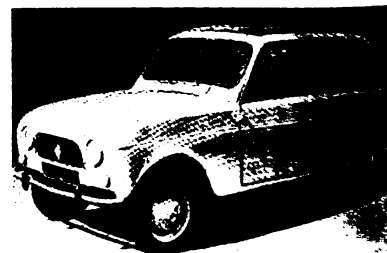
Too few shops inspect wheel cylinders closely enough. If they are not leaking, they are assumed to be in good working order. It should be remembered that, as lining wears, the travel of the pistons shifts from one point to another progressively in the cylinders. The area over which the pistons have not traveled in recent miles often corrodes or etches. Unless the cylinder bore is honed to remove this, a leak can develop when relined shoes are installed.

On older cars, the cups may be expanded enough to cause drag at one or more wheels. Rubber hose deteriorates with age and should always be examined carefully to make sure it is still serviceable.

All lines ought to be checked to detect possible kinking, which would restrict the free flow of fluid. Hold-down springs must be checked to be certain they retain sufficient life.

Drums have been the subject of

Front-Wheel Drive Renault



Renault 4L, which replaces small 4CV. The front-mounted 26.5 hp powerplant propels car through the front wheels

MOTOR, September 1961

HERE'S HOW GRACO CAN INCREASE SERVICE EFFICIENCY

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Overhead heavy duty reels provide all lubricants at our grease rack—instantly available and never in the way.

Service on Graco equipment—if required—will be no problem, as our Graco Distributor maintains and services all our gasoline and lubricant equipment and accessories.

In summary—we feel that the finest trucks deserve the finest service equipment. We are satisfied that we have both.

Very truly yours,
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a good deal of discussion in recent years and probably are checked more often today than in years gone by. This is effort well spent because the condition of the drums has become increasingly important.

Detection Easy

Scoring of drums, of course, can readily be detected. Turning is the remedy but only if the cut that has to be taken to remove the scoring does not increase the inside diameter to more than .060 in. over the original dimension. This .060 in. is the limit set by the service managers of the various car manufacturing companies. A greater cut, they feel, would weaken the drum beyond the safety point, besides reducing the drum's heat absorption capacity. Go, no-go gauges are available for checking the drum dimension.

Noisy brake operation and sometimes erratic braking can result from drums that are mounted off center on the wheels. A check for this condition can easily be made with a dial gauge.

Power brakes require no special service except to the power unit itself. Any defect will quickly show in faulty operation and the car owner will be quick to complain about it.

It is well worth while, though, to make a couple of quick checks of the power system when other brake work is being done to make sure it is operating properly.

Apply Brakes

To determine whether the unit is functioning, first get rid of any vacuum in the system by applying the brakes several times after the engine has been switched off. Then exert light pressure on the pedal and switch on engine. The pedal will move forward slightly if the power unit is working.

An internal leak can be checked with a vacuum gauge or by the alternate method of holding down the pedal and stopping the engine. If there is no internal leak, enough vacuum should remain to assist several more applications.

Even after such a thorough inspection of the braking system as outlined here, conditions may exist elsewhere in the car that may result in a fast comeback unless they are eliminated before the car is returned to the customer.

It is next to impossible, for example, to get perfect braking when tires are underinflated or excessively worn. So see to it that the tires are up to recommended pressure before turning the car loose.

Axle housings can throw brakes out of order by shifting on the springs. Make sure the U-bolts are tight to keep this from happening.

Faulty spring hangers can also adversely affect braking. Lower control arms must be tight to achieve maximum braking effort.

Last but not by any means least is the condition of the shock absorbers. Brakes never stopped a car. They can only stop the rotation of the wheels. Unless the wheels are in contact with the road, they cannot bring a car to a certain stop. It is important, therefore, that the shock absorbers are in good working order and so maintaining constant road contact for the wheels. If tests show this to be doubtful, replace the shocks.

Won't Buy Everything

Very few owners are going to stand still for every last check and test and replacement recommended by a thoroughgoing brake shop. If carried to extremes, the recommended work could amount to a complete and costly rebuilding of the system. Even if the owner had that kind of money, he probably would be loath to spend it.

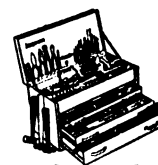
It is to any repairshop's best interest, though, to recommend the work it believes necessary. The customer has the right to reject any he cannot afford or does not want.

All the recommendations should be written out and handed him. Then, if he turns down the suggestions, the shop has a record, for defense in case of subsequent brake failure or accident, or perhaps as the basis of a follow-up later on.

THE END. NOW TURN BACK TO PAGE 49



LIQUID WRENCH
Loosens
Rusted Bolts
nuts, screws, "frozen" parts!
"The mechanic's friend
... works in seconds"
**YOUR JOBBER
HAS IT!**
RADIATOR SPECIALTY CO.
CHARLOTTE, N. C.



Tool Tips for the Mechanic

1961 Cadillac Modification

Try the XSO-2024 SNAP-ON® BOX-OCKET® to hold the bolt head of the upper arm control shaft when installing a washer under the head of this bolt. Use an impact wrench on the nut. See page 51 of Catalogue X.

1961 Ford Fuel Pump

The SDC-8 Clutch Driver is a handy tool to replace the housing of the fuel pump sediment bowl on the '61 Ford. It's on page 61 of Catalogue X.

Chrysler Product Transmissions

Use the S-8690 Tappet Tool for pulling the front band Servo piston on Chrysler product transmissions. Catalogue X — page 72.

NEW TOOLS



Snap-on B-1461 and B-1462 Brake Adjusting Tools

Clear obstructions and make adjustments fast and easy with these new SNAP-ON tools. B-1461 — for 1960-61 Corvair, Buick Special, Olds F-85, Rambler and Tempest. Tool has a 29° angle wide-tang with wheel finder radius for rear brakes and a 45° angle tang with a special curve to clear the ball joint on front brakes.

B-1462 — for cars and trucks with trailing arms: 1961 Chevrolet trucks, GMC trucks, standard Buick, Oldsmobile and Pontiac cars. Tangs at each end are set at 64° in opposite directions — for work on right or left brakes. Long enough to reach the job, yet keeps hands away from backing plate and brake mechanism. Ask your SNAP-ON man about these and other specials that make your work easy.

Stop Light Switches

Remove or replace hydraulic stop light switches with SNAP-ON P-320 ½ Socket. It fits all standard switches and is deep enough to protect the connectors. See page 48 — Catalogue X.

A copy of Catalogue X is available from your SNAP-ON man. Refer to it constantly for your biggest tool values.

SNAP-ON TOOLS CORPORATION

8047-I 28th Avenue • Kenosha, Wisconsin

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MOTOR



MOTOR, October 1961



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AS **MOTOR** GOES TO PRESS

Last-Minute News . . What It Means . . What's Ahead

Labor Strife Confuses Outlook for Dealers

When strikers returned to their jobs at General Motors, the retail trade breathed more easily but the relief was short-lived as Ford workers walked off the job. There was no indication at press time how long the strikes would continue. Until they are settled and Chrysler also comes to terms with the UAW, forecasts can be only tentative.

October Schedules Approach Record

In an effort to overcome the losses suffered last month by walkouts, production schedules for October were set at a near record 650,000. American Motors and General Motors, already signed with the UAW, are assured an even flow of cars but Ford will almost certainly fall short of its goal and others may if local unions defy national leaders as they did at GM.

September New Car Sales Disappoint

Sales last month sagged sharply, along with production. Factories turned out only 355,000 against the scheduled 490,000. Deliveries for September are estimated at only 340,000 units. Fortunately for dealers, nearly all deals were profit producers, including those for 1961's.

More Pressure Due This Month

Detroit sales chiefs blamed the September drop on dealer lethargy. With 1961's selling at a rapid clip and 1962's snarled by strikes, dealers did not press for business. That will begin to change this month as output swells.

Holdover Models No Longer Asset

The holdovers on which dealers realized impressive profits in September may become a problem this month. Dealers entered October with 310,000 year-old models still in stock, excessive when added to the 350,000 new 1962 units on hand, making a total inventory early this month of 660,000.

Used Cars Sell Well For Less

Prices of used cars fell last month, breaking \$30 to \$40 on 1960 and earlier pieces, although volume held high. Dealers feel fear of a possible new car shortage staved off still sharper declines. Franchised dealers are light on used cars. Inventories over the country are under the 30-day mark.

No Further Franchise Changes Are Likely

Except for American Motors and Studebaker dealers, who can expect concessions similar to those already made in Big 3 franchises, retailers should not look for further changes for another year, perhaps two or three. GM's present pact is frozen at least until 1963 models arrive. Ford and Chrysler concessions were forced by GM, so these firms are in no mood to yield more. Ford and Chrysler followed GM's pattern: Holdback upped to 2 per cent, parts allowance on warranty work increased to 20 per cent (Chrysler claims 22 per cent) and 15-day deferred billing. Chrysler, unlike others, will pay dealers 1/6 of 1 per cent of aggregate billings on cars held in stock for 15 days, make payments quarterly.

Justice Dept. Studies Appraisers' Methods

Body shops have been asked by the U. S. Dept. of Justice to supply data on their dealings with independent appraisers. In a questionnaire, they are asked to give the names of these appraisers in their area, to tell whether they demand discounts on parts, how much they ask and whether they try to steer owners to certain shops. The same information is asked of drive-in appraisals, or those made before the car visits a shop. The Dept. of Justice declines comment but the nature of the questions indicates a search for anti-trust violations.

Special Orders Indicate Over-All Market Depth

Although majority of new model customers are taking delivery out of stock, as opposed to asking for special order merchandise, the few customers requesting special orders are coming up with substantial deposits. Development is noteworthy because when back orders are solid deals with consumer money riding on them it signifies over-all market has depth.

1962 Models Bring Little Discounting

Probably due to the uncertain labor outlook around Detroit when 1962 offerings came out, early discounting of new models

did not mar this year's introduction season as it has every year since 1956. Discounts were held down even on 1961 leftovers, seldom exceeding 5 per cent, reflecting the rebate of 5 per cent retailers receive from factories on old models in stock at new model time.

Trend to Smaller Discount Continues

With the dealer discount on Chevy II limited to 21 per cent and a cut in discount on all American Motors cars, those few dealers who have been campaigning for a reduction in the discount (with the backing of one trade journal) can claim a minor victory. Question is, where will it end? Factories began chipping at discount two years ago when compacts were introduced and, barring an organized protest by dealers, the erosion process will continue.

Two Meteor Models Priced Under \$2,500

Mercury Meteor, due to go into production late this month, will be priced closer to Comet than to Mercury. Dealers representing this division will then have two brands pegged under \$2,500. Although Mercury had two models listing at less than \$2,500 in 1961, taxes, freight and incidentals pushed prices above that figure before the customer could drive them away.

Most Dealers Ignored Model Release Dates

Checking dealers in five major markets during the introduction season, MOTOR found widespread violations of factory release dates on new car showings. Only manufacturer rigidly enforcing public introductions is Chevrolet, result of which is that all dealers handling this make get an even play with prospects. As a general rule, Chevrolet outlets also outdraw the competition in attracting opening day audiences.

De Soto Dealers Put Chrysler Ahead

Although factory has not seen fit to credit the achievement, much of the strength that enabled 1961 Chryslers to show a gain over the 1960 model came from former De Soto dealers. De Soto had a handful of dealers who considered it average volume to move 5,000 cars a year. They are the new power behind Chrysler. Excluding compacts, Chrysler and Thunderbird are the only car brands to register more 1961 models than 1960's.

Yearly Model Change Losing Its Appeal

As the new crop of cars indicates, industry is gradually coming round to the view (first expounded by the president of

American Motors) that it is not necessary to come out with an all-new offering every year. Witness Falcon, Corvair and Valiant now in their third year. This is likely to be Detroit's philosophy for several years to come because the factories feel they can no longer afford the formula of all-new-every-fall.

Top-Price Heaters "Standard" Unit

One of the few gripes which dealers have registered against 1962 models is that some factories, making heater-defroster standard equipment, elected to use the highest-priced heater, thus upping the retail tag and factory profits. Retailers are faced with the task of explaining to customers that "with-heater" prices for 1962 are the same as with-heater prices on 1961's, providing the most expensive heater was specified.

Customers Cool To Seat Belts

Equipping new models with anchors for seat belts has not stimulated demand for belts, according to information from dealers. Customers are not even attracted by dealer offers to install belts at cost. Like all safety items, this one needs a long, hard sell before the public will go for it.

Brief but Important

Ford's minicar, Cardinal, is reported to look like a scaled-down Thunderbird, the old model, according to those who have seen it....Oldsmobile will shortly offer power brakes for F-85....Rather than dump less than perfect products on dealers, Imperial debut was pulled back until factory could correct faults that failed to show during pre-production pilot run....Retirement next month of a top official of GM is expected to touch off a cascade of personnel changes at the executive level....Ford Div. expects to announce its 1,000,000th Falcon sale late next month, a record never before equaled by a new nameplate in a comparable period of time. Car is two years old this month....Where factory officials used to flinch when asked about participation in speed events (violating an industrywide agreement to soft-pedal speed and horsepower), they now flare up.

Warm Weather Slows Pickup in Service

The impact has varied with the shop but the demand for prewinter services and goods early this month was generally light. Repairmen and service managers agree that volume will take a big jump as cold weather approaches. Reluctance of car owners to have even advisable work done continues. This is due, in part at least, to the interest created by the introduction of 1962 cars.

Anti-freeze War Plagues Jobbers

Price cuts, ranging at retail from 10 to 60 cents below jobber cost, have upset the market to such an extent that a majority of wholesalers expects volume this month to fall below the same 1960 month. Some jobbers are running ahead of last year but all feel the effects of the price battle. Many retailers are beginning to charge up to \$1 a gallon for installing anti-freeze bought elsewhere. A rival jobber problem now is tightening collections.

Second Quarter Parts Sales Up

Excise tax collections show that sales of parts and accessories in the second quarter, the last for which figures are available, surpassed the like period of 1960 by almost \$40,000,000. Sales by manufacturers in the April-June period were \$2,346,500,000, compared with \$2,306,740,000 the corresponding 1960 period. For the fiscal year ended June 1, sales were down about \$8,000,000.

Chrysler Offers Depreciation Floor

In an aggressive bid for more fleet and lease business, Chrysler has notified major firms in the field that it will guarantee its vehicles against excessive depreciation. If a Chrysler fleet or lease car depreciates more than competitive makes, the

Lingering summer in many sections has blunted the sharp upturn in service business that usually comes with the beginning of October.

company will make the owner an allowance in cash equal to the difference between the market price of the vehicle and the trade-in value of a comparable car produced by GM or Ford.

Dealers Have Fingers Crossed

Setup is similar to the deal Ford made with a fleet operator last year. Dealers are not entirely happy with the program because: (1) It is an admission the company has some reservations about the resale value of its products and, (2) The arrangement could do retailers serious damage with the public as word of it leaks out.

Chevy II Prices Jolt Competitors

Price structure on Chevy II indicates this nameplate will replace Corvair as Chevrolet's answer to competition from Falcon and Rambler. Chevrolet has no intention of dropping Corvair, as erroneously rumored several months ago, but company apparently looks on Corvair as more of a personal vehicle than as the car in a one-car family, as is the case with Falcon and Rambler. Prices of Chevy II, falling within a few dollars of Corvair throughout the series, jolted GM competitors who expected the newcomer would be priced considerably higher. As one competitor conceded, "It's a lot more car than we expected to see for the money."



Dealers Inch Ahead

In the three changes which General Motors made in its selling agreement last month, automobile dealers achieved a substantial, if not spectacular, advance in factory-dealer relations. The Task Force of the National Automobile Dealers Assn., by demonstrating that progress can be made by degrees, rather than by decrees, has earned the thanks of car retailers everywhere.

The holdback of an additional 1 per cent of discount was hardly a sacrifice on the part of the factories. In fact, a dealer here and there is already demanding, inconsistently, that he be paid interest on the money withheld at his own request. The increased markup on parts used in warranty work is a genuine dividend for dealers, especially when it is recalled that it was only a few years ago that factories shouldered 100 per cent of parts and labor expense on warranty jobs.

It is in the 15-day billing that the dealers have scored their most significant gain. Cash on the barrel head had been regarded as an immutable law. The 15-day concession is only half what the Task Force recommended but it puts car dealers more nearly on a footing with other types of retailers.

At press time, Ford had matched the GM markup on warranty parts and made other concessions on parts. It was not clear what other manufacturers would do, but the important fact has already been accomplished. The wall of factory indifference to dealer wishes on a key question, or at least their reluctance to defer to them, has been breached.

It is important now that dealers affected show that the changes in the selling agreement, which they so forcefully espoused, can indeed improve their performance as merchants. The further progress, to which the Task Force is dedicated, can only be impeded if dealers enjoying the new concessions fail to capitalize on them. Factories will hesitate to act on new recommendations if dealers themselves prove their previous requests were empty talk.

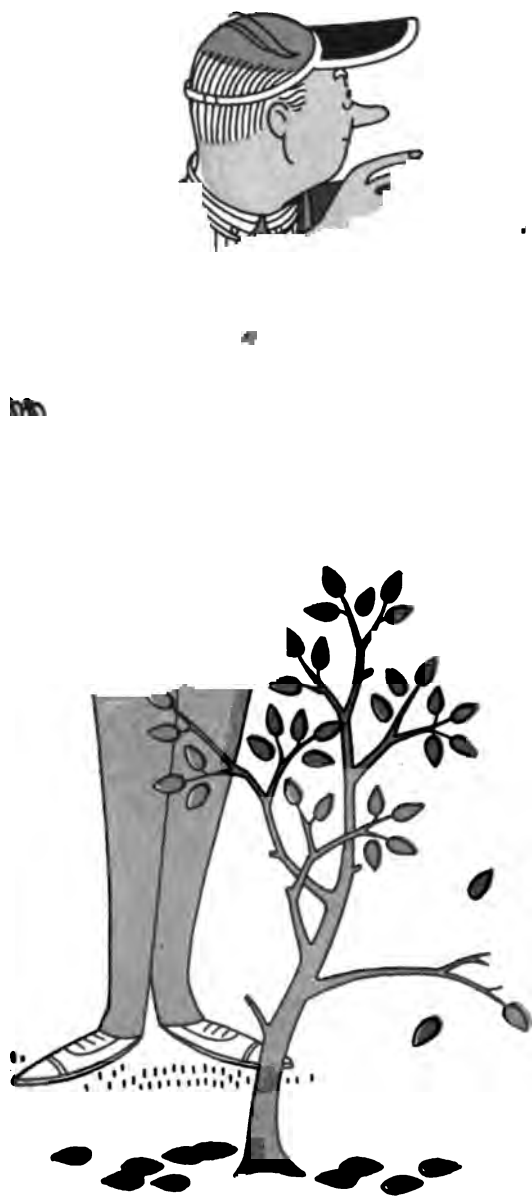
EDWARD FORD
Editor

SENSIBLE PRICING CAN

If retailers followed factory practice of recovering costs before offering bargains, they could not be talked into giving away so much of their net before they get it

By Robert Lund

Detroit Editor of MOTOR



Why should an automobile that sells for factory list in October be knocked down \$100 to \$400 (and maybe more) in January? Was the car overpriced in October? Or is it underpriced in January? Assuming the wholesale price remains constant—that the dealer pays as much for the vehicle in October as in January—how can he afford to sell it so much cheaper three months later?

Do the price cuts confirm a public suspicion that dealers earn such exorbitant profits that they can afford to make lavish discounts and still come out with a bundle?

The most convincing argument against that misguided notion, the idea that dealers wallow in riches, is the number of bankruptcies and failures the business experiences, even in prosperous times. If dealers were to open their books and explain their plight to the public, no one above the cut of a panhandler mooching bed money would label their profits "exorbitant."

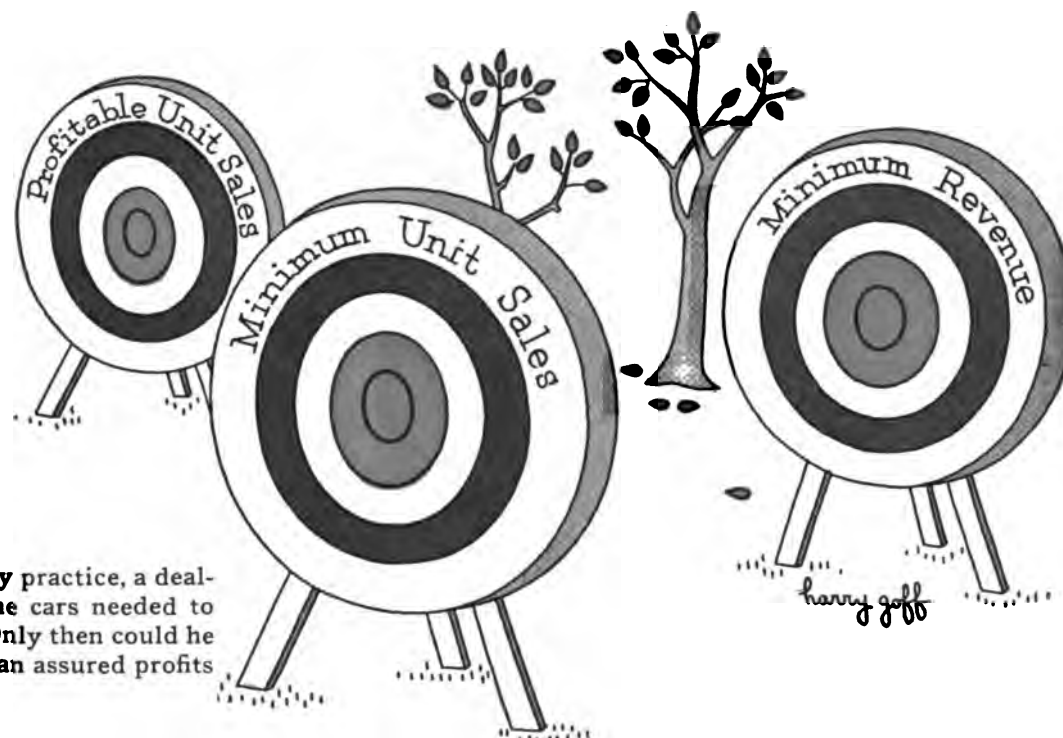
Price Cuts Not Warranted

But if profits are not excessive, how can dealers amputate \$100 to \$400 and up off the price of a car a few months after new models are out?

The answer is that dealers cannot lop several hundred dollars off list and still earn a reasonable return on their toil, time and investment. That is not to say they must get full list for everything. Full list is an ideal, but not an absolute necessity.

If dealers follow the familiar pattern of undercut-

HELP DEALER PROFITS



If he followed factory practice, a dealer would first sell the cars needed to cover his overhead. Only then could he aim for sales that mean assured profits

ting prices on current cars as soon as the bloom begins to fade, the trend of dealer profits is not difficult to forecast. The pattern has seldom varied in the past decade.

Profits hit a high during the first few months of the new model year, fall and falter during the winter months, lift slightly in the spring and then, beginning in July, slide to sub-zero. Unless retailers revise their pricing practice, that will be the riches-to-rags trend of profits on 1962 models.

Adapt Factory Formula

The inadequacy of dealer profits has been the subject of so much fee-faw-fum in recent years it seems unlikely that any means of increasing income could have escaped exploration. But there is one approach dealers have not tried—that of using the same formula to price at retail that factories use to price at wholesale.

The factory formula on pricing will not work as successfully for dealers as it does for factories because manufacturers enjoy a monopoly, an advantage dealers are denied. That is, the factory, as the only source of supply, is in a position to say, "That's our price. Take it or leave it." Although dealers enjoy no such edge, the idea behind the factory formula could be applied at the retail level.

Factory prices are based on a series of goals. Unlike some of the goals they set for dealers, the targets factories set for themselves are realistic and within the realm of attainment. As each successive goal is

achieved, factory profits quickly begin to accelerate.

Goal No. 1 is known as the standard volume target. A better name for it would be the break-even objective. What the factory does is add up its costs to determine how many cars it must sell to earn back its investment.

Let's say the total bill comes to \$5,000,000, including a part of the cost of the plant itself (spread over a period of years), materials, labor, tooling-engineering, overhead, sales-advertising expense, administrative costs, taxes, shipping—everything.

To earn back its \$5,000,000 investment, the factory must sell a minimum of 2,000 cars at a price of \$2,500 per unit. This becomes goal No. 1.

But the factory is not in business just to recoup its investment. It must also produce a profit—for stockholders, for growth and expansion and as a cushion against lean years. The company fixes on a profit objective of, say, 20 per cent on its investment. This figures out to \$1,000,000 (20 per cent of \$5,000,000).

Two Routes to Goal

There are two ways the factory can shoot at the \$1,000,000. Instead of selling 2,000 cars at \$2,500 a unit, it could up the price to \$3,000 a car. But that would restrict sales, because the higher the price of the car, the smaller the market.

The alternative to upping the price to \$3,000 would be to sell more cars at the lower price—2,400 cars at \$2,500 per car would bring in \$6,000,000. This becomes the factory's major [CONTINUED ON PAGE 143]



Taping valve port. All openings should be covered, unless parts are to be replaced at once



Cleaning engine with steam-detergent gun. This makes disassembly easier before a major repair

CLEANING IS

Turn out better overhaul and rebuilding jobs by using the methods and equipment suggested here to make sure engines and parts are free of all foreign matter

By Walter O. Koehler

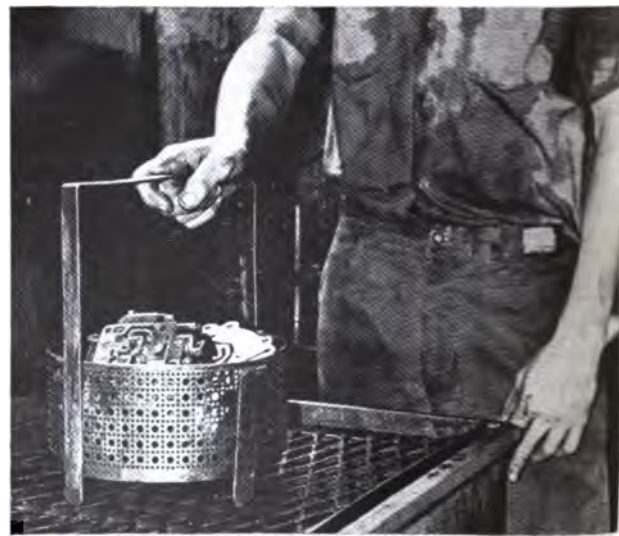
Engineering Editor of MOTOR

One good way to curb comebacks on overhauled engines and other components is to do a thorough cleaning job. In today's precision-built units, minute quantities of dirt or other foreign matter can upset the action of hydraulic valve lifters, score crankshafts and cylinder walls or ruin the shift pattern of an automatic transmission.

But there are other practical reasons why cleaning should be done. Most important, a mechanic can do a better and quicker job when working on a clean engine or transmission.

There is no single method of cleaning which is best for all shops. Each shop operator must make his own decision as to the type of equipment to buy, based on the volume of work to be done, available space and cost.

For example, the exterior of an engine or transmission can be cleaned quickly with solvent applied with a pressure sprayer or by a steam cleaner. Small, portable solvent sprayers can be pressurized by an air hose or pumped by hand. After the air cleaner has been removed and the carburetor air horn and distributor covered, the entire engine is sprayed with



Small precision parts, such as these transmission valve bodies, should be cleaned separately

COMEBACK INSURANCE

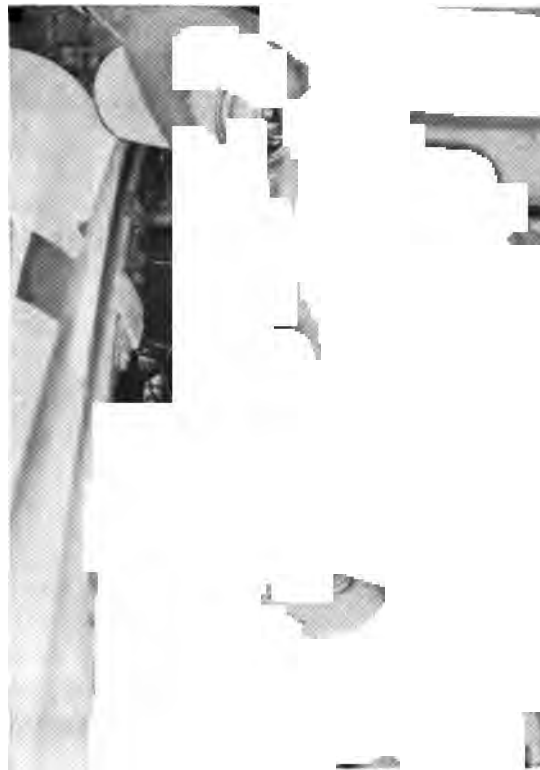
solvent. For more effective cleaning, the engine should be warm. After allowing the solvent to soak through the accumulated grease and dirt for 15 or 20 minutes, rinse off with a high-pressure stream of water or a mixture of air and water.

Steam cleaning is an effective and fast method of removing dirt and grime from the outside of an engine or transmission. A high volume of work can be handled at low cost per job, but the initial investment in equipment is higher than that for the solvent sprayer.

Individual pressurized cans containing enough solvent for one engine are handy for the shop which does engine-cleaning jobs infrequently. The procedure for cleaning with the spray-on can is the same as with the regular pressure sprayer.

It is advisable to clean the outside of an engine or transmission before overhaul even though the cylinder block, heads or transmission case are to be cleaned in a tank. Getting rid of excess oil and dirt not only makes the parts easier to handle and inspect, but prevents rapid con-

Pressurized spray can is used to clean oil and dirt accumulation from power steering reservoir



What Detroit Is Thinking



Factory Lollipops

Are car makers using a variation of a bargaining technique perfected by organized labor to quiet the clamorings of dealers? The technique consists of asking for more than you expect to get, with the idea of trading an excessive demand for an attainable target.

In the case of car factories, the technique is turned around. The manufacturer waits until dealers ask for

By Robert Lund

Detroit Editor of MOTOR

something the factory does not want to give hands over a lesser concession in lieu of the demand.

One of the most important gains dealer made in recent years developed via this ruse name the concession in question would reflect company whose leadership in the field of negotiations is more deserving of praise than condemnation. But the concession itself had been sitting on the shelf a couple of years, like the lollipops the barber under the counter to pacify the kid who whined about having his hair cut.

The moral is obvious enough.

Ford in Wooing Mood

Independent outlets for parts and replacement items, both wholesalers and retailers, are in for some pretty passionate wooing from Ford because of a puzzlement facing the firm. (The word "incident" can be defined in this in-

Tips on Installing Tempered Glass

Special precautions must be taken to prevent recurrence of damage



Loosening adjustment screws on door panel to align channels so glass will operate smoothly



Tapered tool or screwdriver is used to remove large pieces. Vacuum cleaning follows

A lot has been said—and undoubtedly more will be said—in the tempered-versus-laminated glass controversy. Whatever the merits or demerits of either type, the fact remains that tempered glass is here and it will get broken in collisions and otherwise and repairshops will have to replace it.

Today, almost all U. S.-made cars use tempered glass for side and rear windows. When replacement is necessary, an exact duplicate of the original glass must be used. Unlike the laminated type, which is used in windshields, tempered glass cannot be cut and trimmed to size. In fact, any penetration of the hardened surface will cause the entire panel to craze.

To avoid the possibility of installation-breakage, and for safety's sake, certain precautions must be taken when replacing tempered glass.

When removing crazed or broken glass, leather gloves and safety goggles should be worn. Large areas of crazed glass can be knocked out with a rubber mallet and smaller crumbs may be scraped out with a screwdriver. Be careful to keep your face well away from the glass being knocked out.

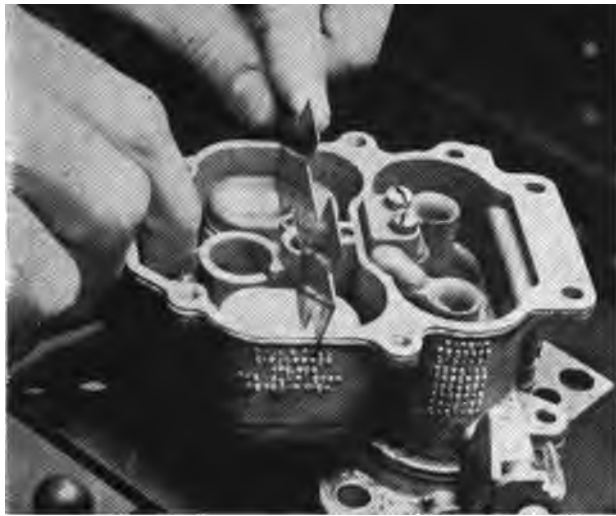
All particles must be removed from the glass runs. If a vacuum cleaner is not handy, use a stiff whisk broom. Make sure there is no felt missing on any of the runs because bare metal on the glass surface may be the source of future damage.

Before installing a door glass, be sure the retainer is free from glass crumbs and dust. If compressed air is used to clean it out, wear safety goggles. After the



Applying silicone spray to keep channels lubricated and prevent binding of the door glass

glass has been installed, proper alignment is important. Should too much force be applied to run it up, damage will certainly result, either to the glass or to the regular mechanism. All cars are equipped with adjusting screws and stops for this purpose. While adjusting the glass alignment, it is also advisable to lubricate the window runs with a silicone spray. This, too, will help the window [CONTINUED ON PAGE 182]



Lip of float is held firmly against needle and seat while float level is checked with a gauge



Checking carburetor base with straight edge. If base is warped, air can be sucked in

Kits to Cure Carburetor Faults

When it seems advisable to rebuild rather than replace a unit, these procedures and precautions will help produce a quality job

By Sam Julty

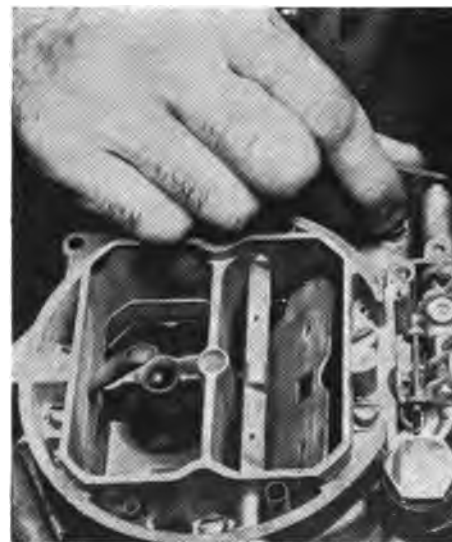
Service Editor of MOTOR

When diagnosis reveals that carburetor work is required, the repairshop has several choices as to how to tackle the job. These choices will depend, to a great extent, on the type work the carburetor requires. For example, certain minor services, such as freeing a stuck choke valve, cleaning a clogged fuel filter, or correcting a fast idle adjustment, may be done without removing the carburetor from the car.

If the job requires removal of the carburetor, however, it will have to be decided whether to replace the unit with a rebuilt or new one, or to rebuild it in the shop.

Replacing and rebuilding each has its own advantages. Today, manufacturers offer new replacement carburetors at prices which are attractive to the repairshop and the customer. If the old carburetor has a cracked casting, a worn throttle shaft bore, a warped base flange, or other such serious defects, it would be wiser in most cases to sell a replacement carburetor.

However, if the work involves a routine cleaning, replacing of small parts, and adjusting, many shops can generally realize more profits if they perform this work themselves. With the trend toward simpler carburetor design and the wide variety of repair kits now available, this approach becomes quite practical. Currently available are a [CONTINUED ON PAGE 160]



With throttle valve held fully open, pump travel is measured with a

Soaking new gaskets and pump plunger. This aids gasket flexibility



TORS INC.

Appraisals Make

A standout dealer tells why he threw out daily reports as a means of evaluating his men and adopted a simple plan that sells more automobiles

By John C. Lujack

Partner, Lujack Schierbrock Chevrolet Co.
Davenport, Ia.

The key to successful closing is persuading enough customers to come in for appraisals. This is what Lujack checks



Old Hand at Strategy



Mapping an attack is an old story to Johnny Lujack. All-American quarterback while at Notre Dame and All-Pro quarterback when he played for the Chicago Bears, Lujack has been a full-time car dealer since 1954.

After two years of coaching the Notre Dame backfield under Frank Leahy, Lujack opened the Lujack Schierbrock Chevrolet Co., Davenport, Ia., in partnership with Frank Schierbrock. Their dealership sells over 1,000 new cars and trucks and over 1,500 used cars and trucks (retail) each year.

In the seven years he has been a dealer, Lujack has learned that competition in car retailing can be as fierce and bruising as any he encountered on the football field. But he brought a fresh viewpoint to the business and his ability to size up a problem accurately has led him to develop many interesting answers.

Some of the most helpful answers are contained in this article.

Let's say you're reasonably well-pleased with your staff of automobile salesmen. But, if you're aggressive and ambitious, you always want to sell a few more cars than you did last year. The problem is, how do you accomplish this?

You could sweeten up incentives. You could cut away the dead wood, if any. You could even go out, if you're the lucky kind, and hire a human dynamo who will charge up the rest of the staff. Or, some say, just hire three or four more men so as to have, at least, quantity on your staff.

Before you do any of these things, it might be wise to check the record. It is easy to tell from the books, or even from that chart on the sales manager's wall, how many cars each of your salesmen delivered in the past month. You can see at a glance that White led the pack, that Green was middling and that Black was at the bottom of the pile.

Does this mean you ought to give White a bonus and fire Black? Hardly. You've got to know more

Salesman

and their efforts—and their problems. g to do is to look over the salesmen's Here you get an education, if you're

, you see that White, Green and Black e calls a day, exactly as you and the agreed they must do. And each of them uired 15 postcards a day, again accord- let Green sold only two-thirds as many and Black delivered hardly enough to ne.

r dealers, we found the first quarter of what puzzling. We had basically the staff that did everything right the year s year we weren't selling as many cars we should. The daily reports proved men worked. Or did they?

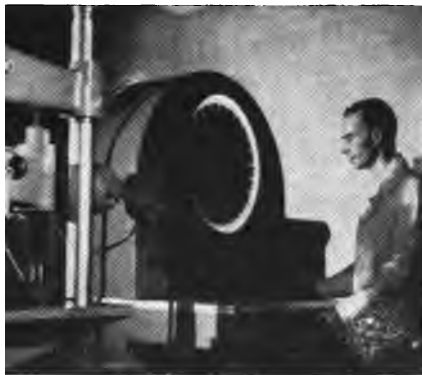
y realized that it would be a mighty n who would [CONTINUED ON PAGE 152

Here is how the evaluation chart might look if a dealer had a three-man staff

Appraisal Record for September

Days	WHITE		GREEN		BROWN	
	Appr.	Sales	Appr.	Sales	Appr.	Sales
1	3	1	2	1	1	0
2	4	1	3	0	0	0
3	5	2	4	0	2	0
4	2	1	3	2	1	0
6	4	1	2	0	2	1
7	3	0	1	0	0	0
8	4	1	3	1	1	0
9	3	2	5	2	2	0
10	2	1	1	0	2	1
11	5	1	3	1	0	0
13	4	2	2	1	1	0
14	2	0	3	0	0	0
15	3	1	2	1	3	1
First						
15 days	44	14 32%	34	9 26%	15	3 20%
(DEALERSHIP FIRST 15 DAYS:						
93 appraisals, 26 sales, or 28%)						
16	5	2	3	1	0	0
17	2	0	1	0	1	0
18	2	1	2	1	2	0
20	4	1	4	2	2	1
21	3	1	3	1	0	0
22	2	1	0	0	1	0
23	4	1	3	0	0	0
24	1	0	2	1	1	1
25	2	0	3	1	1	0
27	3	1	0	0	1	0
28	3	2	4	1	1	1
29	2	1	2	0	2	1
30	4	2	1	1	0	0
Second						
15 days	37	13 35%	28	9 32%	12	4 33%
(DEALERSHIP SECOND 15 DAYS:						
77 appraisals, 26 sales, or 34%)						
Total month	81	27 33%	62	18 29%	27	7 26%
(DEALERSHIP ENTIRE MONTH:						
170 appraisals, 52 sales, or 31%)						

As Engineers See It



turbine Gets Field Tests

gas turbine stack up against a gasoline ie under actual operating conditions?

Allison Div. of General Motors Corp. type turbines and placed them in the al branches of the armed forces, as ivate companies. R. W. Guernsey, of progress report on the tests at the reeeting of the Society of Automotive

most extensive tests were those per-

formed with the turbine installed in an Army tracked vehicle. The turbine, governed to limit its output to 165 hp, replaced a 162 hp gasoline piston engine. The turbine-powered vehicle was unable to match the acceleration provided by the gasoline engine from a standing start to 15 mph.

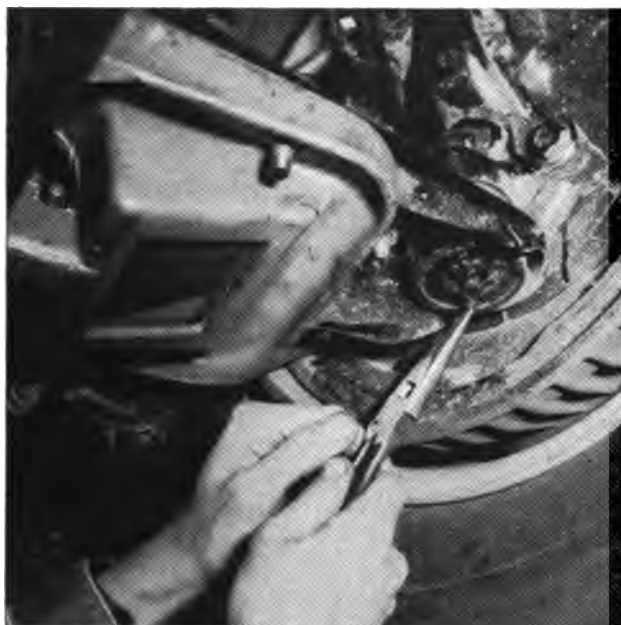
Even when the idling speed of the turbine was stepped up to 24,000 rpm in an effort to reduce acceleration lag, the gasoline-powered vehicle reached 15 mph in a shorter time. Above this speed, however, the turbine provided superior acceleration and gave a top speed of 40 mph, compared with 30 mph for the conventional powerplant.

At wide-open throttle, the turbine averaged 4 to 20 per cent more miles per gallon than the piston engine. The situation was reversed under light-load, or cruising, conditions, where the gasoline powerplant delivered 4 to 60 per cent more miles per gallon.

The turbine's high fuel consumption at light load was even more forcefully illustrated in the Navy personnel boat installation. At full load, the turbine burned 18.8 gal. of Diesel fuel per hour, while a 425 cu. in. two-cycle Diesel consumed 12 to 13 gal. per hour. At idle, the turbine still required 3 to 4 gal. per hour, while the consumption of the Diesel engine dropped to 1 gal. per hour. [CONTINUED ON PAGE 173

What to Do If Lube Seals Fail

These factory tips will enable you to remove and replace them fast with the least bother



Using needle-nose pliers to remove a replaceable neoprene service plug on 1961 Cadillac



Removing Mercury lube plug. Special lube gun with threaded needle screws onto the fitting

Last year, when Ford, Mercury, Lincoln Continental and Cadillac introduced sealed lubrication with 30,000-mile lubrication intervals, an occasional repair and service shop was ready to close down its lube department and write it off as an investment loss. Fortunately, this dim view was not widely accepted—and for good reason.

While it is true that these vehicles have not required *chassis* lubrication—except in cases of seal damage or failure—they still require lube service in other parts of the car. Secondly, some of these cars are now a full year old and have been subjected to the rigors of city traffic, bumpy country roads, flooded parkways, and dry, dusty turnpikes. Undoubtedly, the front end has seen a lot of action—and action means wear.

It is now important for repairmen to examine suspension and steering joints of cars having sealed lubrication. Seals could be dry and cracking, grease may be leaking from broken seals, ball joints could be worn, tie rods might be stiff from insufficient lubrication. These and other possible problems could prevail unknown to the car owner.

Because it is likely that removal and replacement of the front-end seals will be [CONTINUED ON PAGE 170]



Before installing a ball-joint-removing tool between upper and lower studs on Ford, a box wrench is slipped on to get a better grip



"Cap's givin' the insurance salesman a big pitch on how easy it is to sell cars," said Lou. "He doesn't know the locker-room boy is listening"

It's Always Time to Hunt Salesmen

To build and maintain a capable staff, Cap Moran finds, a dealer has to keep prospecting constantly for promising men

As Phil Kinkaid, the junior salesman at Moran Motors, Inc., walked out of the salesroom, he left an almost visible trail of gloom. Adelaide Hunt, the incurably curious secretary-bookkeeper, paused in her typing.

"Bet on the wrong club in the World Series?" she asked Lou Butterworth, the used car manager, who happened to be standing next to her desk.

"If you was about to get canned," said Lou, unwrapping a fresh cigar and studying it appraisingly, "you wouldn't be whistlin' a merry tune, neither."

"Who said Mr. Kinkaid was going to be fired?"

Lou touched a lighter flame to the cigar, examined it closely to see that it was burning evenly, and said:

"You figure it out. We ain't sellin' enough cars out of this joint to keep the three new car salesmen busy as it is. But Cap's out at the club, playin' golf with an insurance salesman and givin' him a big pitch on what a soft snap it is sellin' automobiles."

"Did he offer him the job?" asked Adelaide.

"Not that I heard. That ain't proof that he won't,

though. If he hires the guy, why Phil's the logical man to get axed; he's the newest."

Adelaide smiled. "That's a pretty explanation," she said, "but it doesn't explain too much."

"Such as?" said Lou, blowing a fat ring of cigar smoke.

"Such as, who knew about Mr. Moran and the insurance salesman?"

"The locker-room boy heard 'em talkin'."

"That makes it authentic, I suppose," said Adelaide. "But who told Mr. Kinkaid?"

"Told Phil? I didn't. It was him told me. The locker-room boy and him bowls at the same alleys."

"Didn't you tell Mr. Kinkaid there wasn't anything to worry about?"

"Maybe there is," said Lou.

"You know Mr. Kinkaid is probably our best salesman."

"I don't know nothin' of the kind. All I know is, he's tall, dark, and curly-headed."

"What's that supposed to mean?" asked Adelaide sharply.

"Nothin' specially, except that guys like that seem to get a lot further than us fat boys, at least with certain secretaries."

Adelaide made a production of resuming her typing.

"I haven't any objection to fat," she said, "as long as a man doesn't wear it [CONTINUED ON PAGE 164

Builds TBA Volume



Installing snow tires at Dick Alexander's service station, Lathrup, Mich. Beginning in October, sales of winter TBA items boom

Nearly two years ago Dick Alexander took over operation of a slumping service station in Lathrup, Mich., where gasoline volume was on the anemic side and TBA sales in sad shape.

Today, both are in excellent health. About 23,000 gal. of gas are pumped each month, nearly twice the volume during pre-Alexander days. Moreover, 1 gal. of oil is sold for every 96 gal. of gas.

TBA sales have improved constantly and impressively. In October last year, for example, TBA sales totaled a whopping \$1,986, including a hefty volume of snow tires, batteries, air cleaners, windshield wipers and blades, de-icers and fan belts.

Success with TBA did not happen magically or because customers took a fancy to the new owner. Alexander planned and executed a course of action.

First step was to hire gas pump men who, in Alexander's words, "were talkers." This was done because he believes service-station personnel must initiate TBA sales—and that means sales pitches.

When he took over the station, this operator's sales were almost non-existent, but in a short time he has increased it to \$2,000 a month

Second step was to offer employees a straight 5 per cent bonus on all sales, excluding gasoline. The third step was to systematize a TBA sales approach.

Because gasoline pumps provide a natural springboard to TBA sales, Alexander instituted an "all-around-the-car" service, requiring employees to look for sales opportunities—under the hood, at the rear end and at all four tires.

An example of how the all-round service works is the case where corrosion is found on a battery. An attendant brings the condition to the attention of the owner and requests permission to remove the corrosion without charge—a request that is happily granted by customers.

This, then, permits a closer inspection of the battery and frequently a quick voltage test. Upshot of this approach was that 23 new batteries were sold last October.

While Alexander shoots for a steady, year-round TBA volume, his sales hit peaks during spring and fall change-over periods. He begins his winterizing promotions in mid-September, advertising it with messages painted prominently on his windows and via person-to-person contacts.

At the outset early last fall, he sold some snow tires, de-icers and fan belts. But after the first cold snap hit in October, winterizing specials leaped to 28 a day!

Employees were primed to look for opportunities, not merely install antifreeze. Winterizing specials can and should, Alexander believes, lead to TBA sales. Last year Alexander's men racked up solid sales of batteries, thermostats and tires as a result of winterizing service specials.

Sells 50 Tires a Month

Speaking of tires, in October last year, Alexander sold 22 snow tires. On a monthly basis, he sells 50 tires, 80 per cent of which are new, the rest either used or recaps.

He realizes that the tire field is highly competitive in his area and he has become reconciled to a small mark-up. But he's satisfied because these low-profit sales do keep customers coming back.

TBA is sold in volume not only because the staff likes the 5 per cent bonus but because Alexander keeps a daily record of each man's output.

Every employee notes all sales made out on a "shift

om Scratch

" And each man uses a different color ink so under can tell at a glance who is selling and who. If a man's output has slipped, Alexander calls n and discusses the situation and seeks a remedy. addition, Alexander constantly checks his inven- Items are arranged on shelves in such a man- at he can tell at a glance what items are moving and which aren't. If a particular item is not be- ld, he instructs his men to start pushing it. rchandising muscle is put behind TBA at this n because the owner is convinced that these icts offer the best opportunity for profits. More- he feels that if he did not sell needed TBA items stomers, he would be guilty of neglecting their nterests.

A sales are not confined to the station's prem- During slow periods, attendants place the sta- business card under windshield wipers of cars d in the adjacent supermarket parking lot. At times, they make spot checks of tires on cars d along the streets near the station.



Dick Alexander explains to attendant how an when to use an air-cleaner testing device

Capital Close-Ups

By Bert Mills

Washington Editor of MOTOR



Suit to Split GM Expected

ot. of Justice attorneys are bending every effort ll off one of the greatest coups in anti-trust his- a suit to break up General Motors. Grand juries ree cities have been receiving evidence for hs. If criminal indictments are voted, a pro- d trial could begin early in 1962. A conviction riminal case would be followed by civil suits ig economic remedies.

at the government is trying to prove is that GM ts vast powers to restrict competition. Fringe charging bus and locomotive monopolies are al- in court but Justice is now trying for the jack- its aim is nothing less than a split-up of the corporation into smaller companies, directly eting with each other.

pite all its other activities, GM is still primarily

in the automotive business. Nearly 87 per cent 1960 sales of \$12,700,000,000 were connected some phase of the car industry. Thus Justice's trained on this field. Evidence presented to a jury is secret but it has been reported that th Angeles jury is sifting claims that GM dealers been pressured into refusing to sell to discount that the Houston probe concerns the AC Spark Div., and that New York jurors are receiving evi regarding the passenger car divisions.

Chevrolet May Be Target

If GM is to be cut into pieces by the govern Chevrolet Div. is a likely candidate for part Chevrolet accounts for over half of GM's car o and is the nation's No. 1 best seller. However, a off of Chevrolet would pose [CONTINUED ON PAG



1 Rear impact bent sheet metal and bumper and pushed up left side of this 1961 Tempest body



2 Turnbuckle exerts pull in direction opposite that of impact to ease later straightening

REAR-END DAMAGE



5 Combination of pull and heat restores alignment. Asbestos sheet protects the gas tank

Panel removal and replacement work flows smoothly and body aligned expertly on this 1961 compact car

By William J. Moreland
Technical Editor of MOTOR

8 After fit has been checked, top and bottom panels are brazed and welded to adjoining metal

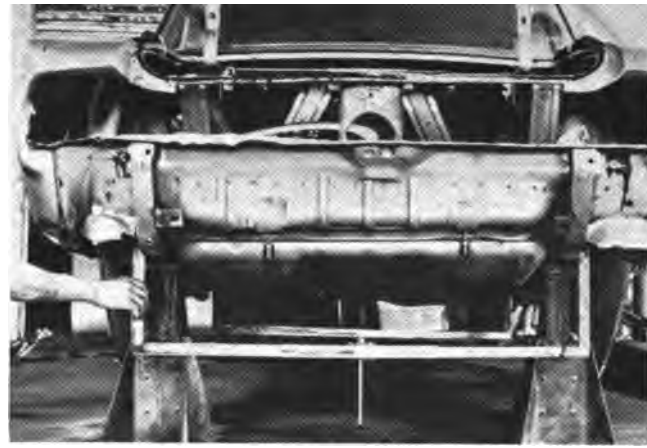


9 Temporary sheet metal screws are removed and the joints leveled by applying body soap





3 After deck lid, lights and bumper have been taken off, the two rear panels are removed



4 Gauges, inserted in holes in side members of body, quickly reveal misalignment of metal

REPAIRED QUICKLY



6 With main straightening work done, lower panel is clamped in place and then tack-welded



7 Securing upper panel temporarily with screws. The new deck lid is installed to check fit

10 Fit of all trim parts is checked before car is sent to paint department for refinishing

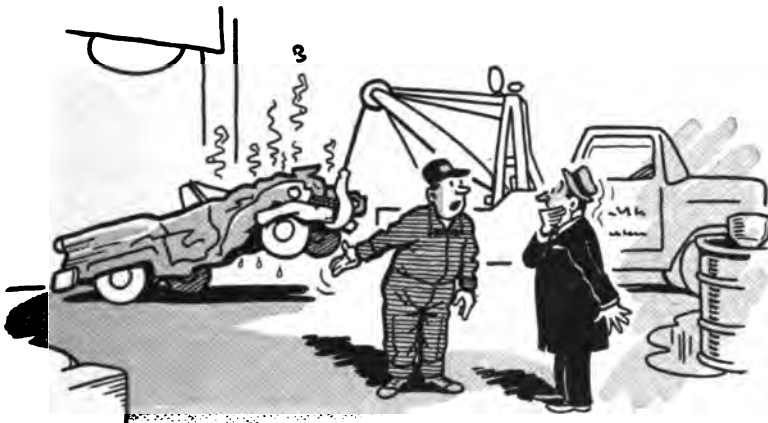


BODY BLOWS

By Graham Hunter



"Just made my final payment on this bus. I'm in the clear at last!"



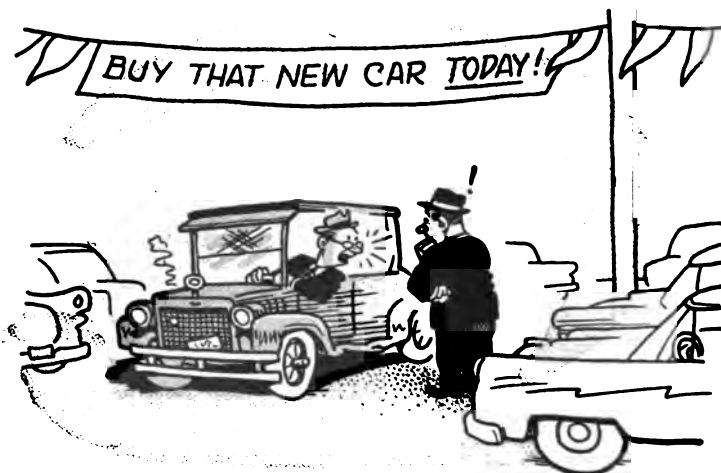
"To put it in shape will cost quite a bit but since it's an imported car mebbe you could try for some of this Foreign Aid"



"After tomorrow no crumpled fenders on my car for a month. We're starting our town's No Accident Month!"



"No. Mr. Wisecracker, this ain't a laundry. Our present customer just took the Parvin's Pond curve a bit too fast!"



"Progress? Certainly I believe in progress! I ain't drivin' a horse 'n buggy, am I?"

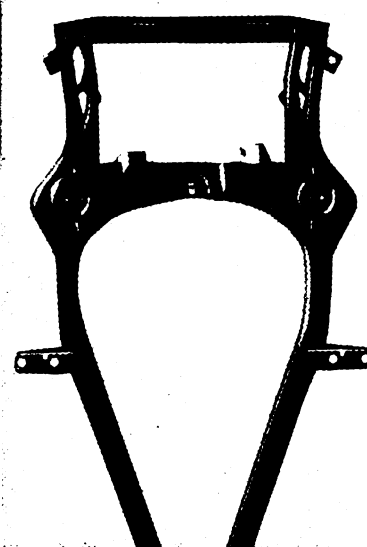
401 In. V-8 Standard on Buick

Camshaft new . . . 364 cu. in. engine discontinued . . . Front section of frame widened . . . Changes made in suspension, steering



Invicta convertible for 1962, showing new grille design. Inner headlamps are in the grille, the outer lamps blend into fenders

Two-door hardtop, one of four models available in LeSabre series for 1962



Frame is widened behind new crossmember to accommodate engine which has been moved forward approximately 4 in.

MAJOR DATA

	LeSabre	Invicta	Electra 225
Displacement	401 cu. in.*	401 cu. in.†	401 cu. in.‡
Bore and stroke	4.1875 x 3.64 in.	4.1875 x 3.64 in.	4.1875 x 3.64 in.
Horsepower	280 @ 4,400	325 @ 4,400	325 @ 4,400
Torque	424 @ 2,400	445 @ 2,800	445 @ 2,800
Compression ratio	10.25 to 1†	10.25 to 1	10.25 to 1
Wheelbase	123 in.	123 in.	126 in.
Over-all length	214.1 in.	214.1 in.	220.1 in.
Height	56.3 in.	56.3 in.	57.0 in.

*Two-barrel carburetor standard

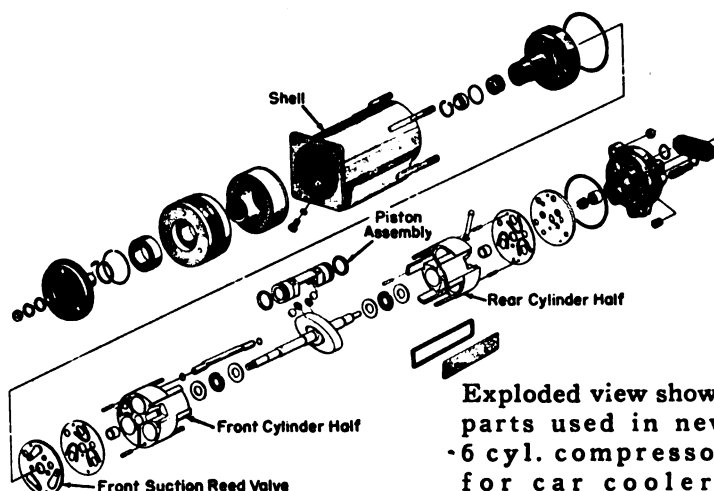
†9.0-to-1 ratio optional

‡Four-barrel carburetor standard, optional on LeSabre

Reshuffling of models, changes in styling, suspension and steering, elimination of the 364 cu. in. V-8, and relocation of the engine are some highlights of the 1962 Buick.

Styling changes include a wedge-shaped radiator grille with horizontal bars. The inner headlamps are now set in the grille, with the outer headlamps blended into the front fender. Four front-fender ports are used on the Electra 225, three on LeSabre and Invicta.

A new hood is different in appearance, and an inner hood panel is used to give added rigidity. A single latch, located at the front center, locks the hood. The rear deck contours on the LeSabre and Invicta have been restyled, rear lamp units are [CONTINUED ON PAGE 150]



Exploded view shows parts used in new 6 cyl. compressor for car coolers

Valiant—New to line is this Signet 200 two-door hardtop model with bucket seats



New Look for 1962 Chrysler



Chrysler—Two-door hardtop in 300 series, which replaces discontinued Windsor series



Dodge—Dart 330 two-door hardtop. Wheelbase is 116 in., two less than on 1961's



Dodge—Polara 500 convertible comes on 116 in. wheelbase, 6 in. shorter than last year

Plymouth and Dodge shorter, lighter . . . Valiant and Lancer add sports models . . . 300 series replaces Windsor

The addition of compact sports car models, major body changes and some new styling touches are to be found in Chrysler Corp.'s 1962 line-up. Mechanical details of these cars were described in the September *MOTOR* Magazine.

Plymouth has a new, fully unitized body for 1962. The 115 in. wheelbase on sedans is 3 in. shorter than 1961 models, while wagons have been trimmed from 122 to 116 in. Over-all length is reduced 7½ in. to 202 in., width from 80 to 75½ in. and weight by approximately 200 lb.

The concave grille is new. The low-beam headlamps are mounted in it. The passenger compartment is moved farther to the rear and the windshield is steeply slanted to make the hood and fenders look longer. The flat roof panel is extended, with the rear window more nearly vertical. Models offered in the Savoy, Belvedere and Fury series are the same as for 1961, except that the two-door Savoy station wagon and the 6 cyl. four-door hardtop Fury have been discontinued.

Two-Door Hardtop Added

Valiant adds a new two-door hardtop with bucket seats, the Signet 200. Different in appearance from the other Valiants, the new model retains the silhouette of the hardtop and has sports-car interior trim.

Valiant exterior changes for 1962 include new rear deck, rear fenders and taillights, and a larger grille frame which extends up into the



Dodge—Lancer Grand Turismo two-door hardtop has sports car interior, bucket seats

Corp. Cars

hood. Inside, a new instrument cluster and steering wheel are used. In addition to the new Signet 200 model, a V-200 two-door sedan has been added and the V-200 two-door hardtop dropped.

The Dodge Lancer has added a new, sports-type car with bucket seats—the Grand Turismo two-door hardtop—and a series 770 two-door sedan to the line. Dart has discontinued the Seneca, Pioneer and Phoenix series and replaced them with series designated Dart, Dart 330 and Dart 440. Two four-door station wagons are added to the 440 series. Polara 500 has dropped all models except a two-door hardtop and convertible.

Rear Styling Changed

Rear styling of the Chrysler car has been changed, with new quarter panels, deck lid, rear bumper and doors. On the Newport, the grille is a flat stamping with a pattern of square openings. On other models, the grille is distinguished by two large crossed bars on a background of diamond-pattern aluminum mesh. The aluminum insert surrounding the canted dual headlamps in the front of the fenders has a black anodized finish.

Models offered in the Newport and 300 H series are the same as last year. The Windsor series has been discontinued in favor of the 300 (no letter) series, which offers the same models as last year's Windsor, except the dropped four-door sedan. The New Yorker series has dropped the two-door hardtop and convertible.

Imperial styling in 1962 provides a new rear-quarter appearance with low, horizontal fender lines. The new grille is in two sections, separated by a metal panel, with chromium-plated bezels framing three sides of each section. All models in the Custom, Crown and LeBaron series are continued.



Plymouth—Fury two-door hardtop for 1962. Wheelbase on sedans has been cut from 118 to 115 in. and over-all length from 209½ to 202 in. All bodies are fully unitized



Chrysler—Four-door pillarless station wagon in New Yorker series for 1962



Imperial—LeBaron four-door hardtop shows low, horizontal fender lines

V-6 Bows with Buick Special

New powerplant displaces 198 cu. in., develops 135 hp at 4,600 rpm . . . Four-speed manual drive, power brakes with automatic drives optional



New addition to the 1962 Special line is this convertible, offered in Standard and De Luxe series



New 90 deg. V-6 engine with cast-iron block, similar in design to the aluminum V-8, but both bore and stroke have been increased

The 1962 Buick Special has a 90 deg. V-6 engine, the first time ever used in an American-made passenger car.

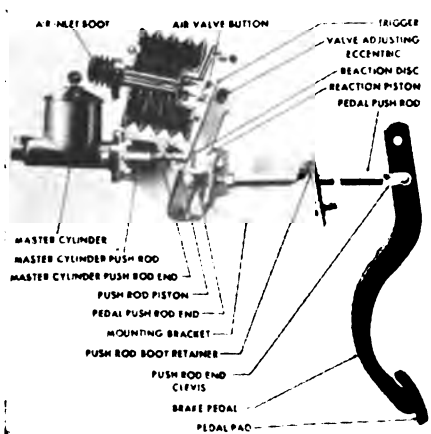
New body models include convertibles with manual or power-operated tops. Power brakes, a limited-slip differential and two-speed wipers are now available.

The new V-6, the standard powerplant in the 4000 Standard series, is closely patterned after the V-8, but without the two rear cylinders. A cast-iron block is used. The bore has been increased to 3.625 in. and the stroke to 3.200 in. to obtain a displacement of 198 cu. in. Brake horsepower is 135 at 4,600 rpm, and [CONTINUED ON PAGE 188

MAJOR DATA

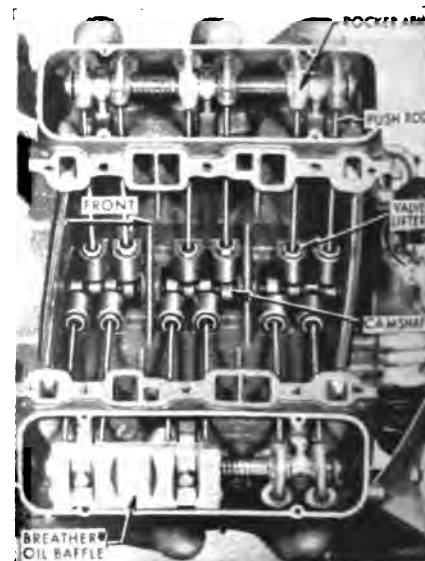
	Standard	De Luxe	Skylark
Displacement	198 cu. in.	215 cu. in.	215 cu. in.*
Bore and stroke	3.625 x 3.200 in.	3.50 x 2.80 in.	3.50 x 2.80 in.
Horsepower	135 @ 4,600	155 @ 4,600	185 @ 4,600
Torque	205 @ 2,400	220 @ 2,400	230 @ 2,800
Compression ratio	8.8 to 1	8.8 to 1	10.25 to 1
Wheelbase	112 in.	112 in.	112 in.
Over-all length	188.4 in.	188.4 in.	188.4 in.
Height	52.5 in.	52.5 in.	52.5 in.

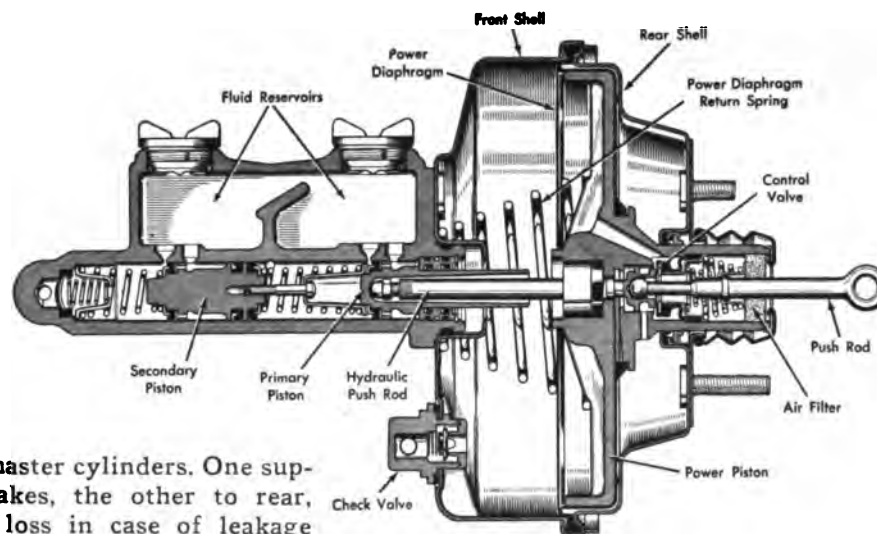
* Optional on Standard and Skylark



Atmospheric-suspended type power brake, with separate vacuum reservoir, optional on models having automatic drive

Valve mechanism on V-6 uses hydraulic lifters, solid push rods and non-adjustable aluminum rocker arms





Power brake with dual master cylinders. One supplies fluid to front brakes, the other to rear, preventing total brake loss in case of leakage

Cadillac Offers Dual Brakes

Safety system uses one master cylinder for front wheels, another for rear . . . 6 cyl. air conditioning compressor, "cornering" light introduced

An important safety advance—dual braking system—heads the list of changes in the 1962 Cadillac. The system, with separate hydraulic circuits to front and rear brakes, prevents total brake failure in the event of a broken line. Other new features include a cornering light to help the driver see around curves, a larger gasoline tank and a 6 cyl. air-conditioning compressor.

With the exception of minor variations in height, exterior dimensions are unchanged. As in 1961, 12 models make up the line. A new Park Ave. Sedan with shortened rear deck replaces the four-window sedan in the 62 series.

The new grille is flat, rather than convex, with a

shallow "V" in the center. The top edges of the tail fins have been lowered 2 in. and straightened.

The dual braking system is actuated by two master cylinders in a common housing in front of the vacuum booster. Primary and secondary pistons are mounted in tandem. The primary piston, operated by the booster push rod, transmits hydraulic pressure through lines to the wheel cylinders of the front brakes. A push rod at the front of the primary piston moves the secondary piston, which forces fluid through a separate line to the rear brakes.

The fluid reservoir is divided into two chambers, separated by a baffle extending [CONTINUED ON PAGE 191]



Cadillac 62 convertible for 1962. The new grille texture alters front-end appearance

MAJOR DATA

	Series 60 and 62	Series 75
Displacement	390 cu. in.	390 cu. in.
Bore and stroke . .	4 x 3.875 in.	4 x 3.875 in.
Horsepower	325 @ 4,800	325 @ 4,800
Torque	430 @ 3,100	430 @ 3,100
Compression ratio .	10.5 to 1	10.5 to 1
Wheelbase	129.5 in.	149.8 in.
Over-all length . . .	222 in.*	242.3 in.
Height	54.8 in.**	59.1 in.

*Series 62 Town Sedan and Park Ave. Sedan 215 in.

**Series 62 Sedan and and Sedan de Ville 56.3 in., 62 convertible 55 in., Eldorado Biarritz 55.2 in.



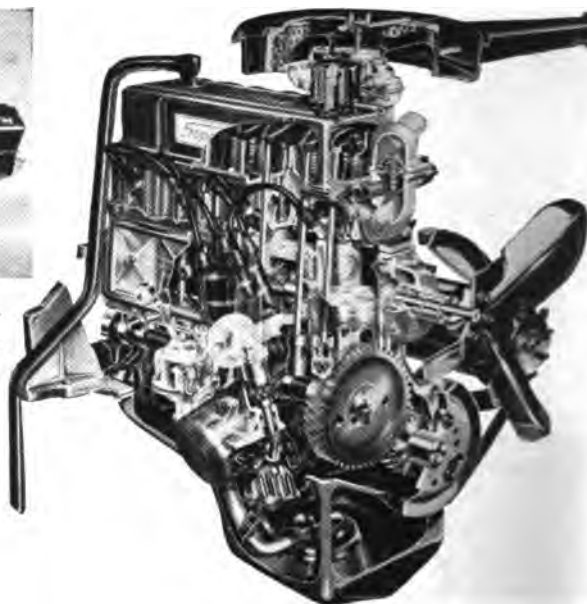
Fleetwood 60 Special shows new rear quarter. Fins have been straightened and lowered 2 in.



Top series in Chevy II line is the Nova 400, including this convertible model. Wheelbase is 110 in.



Single-leaf rear spring on new line is thicker and narrower at center than at ends



Cutaway of Chevy II 4 cyl. overhead-valve engine. Lifters are hydraulic, the camshaft gear-driven

Chevy II Offers 4 and 6

Smaller engine on Chevrolet's completely new "in-between" line develops 90 hp, larger plant 120 hp . . . Wheelbase 110 in . . . Standard-size line presents appearance changes

The Chevy II, a completely new car, larger than the Corvair and smaller than the standard line, is introduced by Chevrolet for 1962. Front-mounted 4 and 6 cyl. engines, both in-line and with overhead valves, were developed for the new in-between car. Another innovation is the single-leaf rear spring.

Both 4 and 6 cyl. engines have hydraulic valve lifters. Camshaft drive is by gears, and the parts in the valve mechanism, except the camshaft, are the same on both engines. Slipper-type aluminum pistons, with the piston pins locked in the rods, are used. A single-barrel carburetor is standard on both engines.

The 8.5-to-1 compression ratio permits the use of regular fuel. Firing order is 1-3-4-2 on the 4 cyl. engine and 1-5-3-6-2-4 on the 6. The 4 cyl. engine develops 90 hp at 4,000 rpm, and the 6 cyl., 120 hp at 4,400 rpm.

A manual three-speed transmission with a 2.94 ratio in first is standard on the new car. Powerglide automatic transmission is optional.

The Chevy II body has two basic sub-structures [CONTINUED ON PAGE 158]

MAJOR DATA

	Chevy II 4 cyl.	Chevy II 6 cyl.	Biscayne Bel Air Impala 6 cyl.	Biscayne Bel Air Impala 283 in V-8†	Corvette V-8
Displacement	153 cu. in.	194 cu. in.	235.5 in.	283 cu. in.	327 cu. in.
Bore and stroke	3.88 x 3.25	3.563 x 3.25	3.56 x 3.94	3.875 x 3.00	4.0 x 3.25
Horsepower	90 @ 4,000	120 @ 4,400	135 @ 4,000	170 @ 4,200	250 @ 4,400
Torque	115 @ 2,400	177 @ 2,400	217 @ 2,000-2,400	275 @ 2,200	350 @ 2,800
Compression ratio	8.5 to 1	8.5 to 1	8.25 to 1	8.5 to 1	10.5 to 1#
Wheelbase	110 in.	110 in.	119 in.	119 in.	102 in.
Over-all length	183 in.*	183 in.*	209.6 in.	209.6 in.	176.7 in.
Height	55 in.▲	55 in.▲	55.5 in.‡	55.5 in.‡	52.2 in.

▲ 54 in. on coupe, 54.5 on convertibles

‡ 55 in. on convertible, 56 in. on wagon

11.25 to 1 on special cam engine

† 327 in. and 409 in. V-8's optional

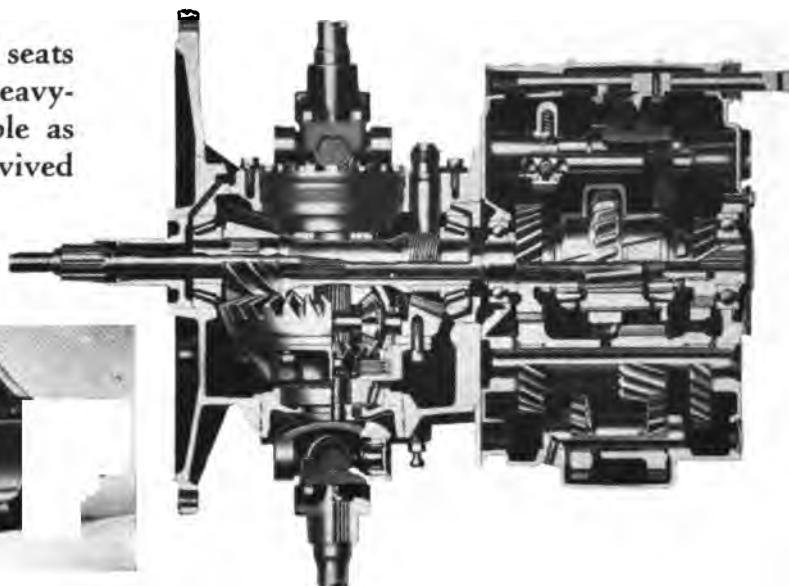
* 187.4 on wagons

Corvair Adds Monza Wagon

New model offers optional bucket seats . . . Limited-slip differential, heavy-duty suspension are now available as extras . . . Automatic choke revived



Corvair 700 four-door sedan. Twin ornamental grilles in front distinguish the 1962 model



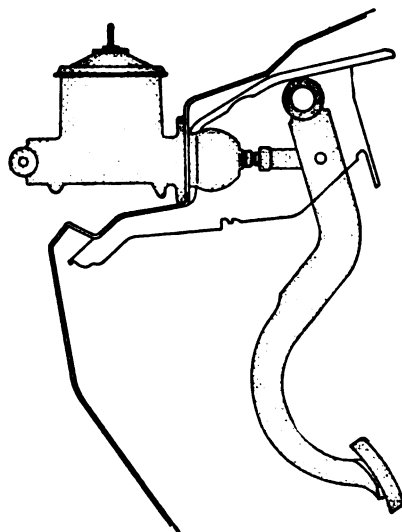
Cutaway of transaxle shows Positraction limited-slip differential, available for first time in Corvair

Corvair has been carried over into 1962 with minimum mechanical and styling changes. The four-door sedan and station wagon have been dropped from the lowest-priced 500 series, leaving only a two-door club coupe. A station wagon with optional bucket seats has been added to the Monza series. A convertible will be introduced later, probably next March. New options on the entire line include a limited-slip differential and heavy-duty suspension.

Three versions of the 145 cu. in. air-cooled engine are offered. The standard powerplant develops 80 hp, while the engine supplied with Powerglide-equipped Monzas puts out 84 hp. Horsepower of the optional high-performance engine with special camshaft has been increased from 98 to 102. Both the Monza Powerglide engine and the high-performance unit have 9-to-1 compression ratio and require premium fuel.

Automatic choke, discontinued in 1961, has been reinstated on the 1962 model. The oil-control piston ring has been changed from a one-piece uncoated cast-iron type to three-piece steel design with two rails and a spacer. The rails are chrome-plated.

The limited-slip differential is a smaller version of the Positraction unit offered on the full-size Chevro-



Brake master cylinder, which has been moved from the passenger compartment to the firewall for easier servicing

MAJOR DATA

500, 700, Monza

Displacement	145 cu. in.
Bore and stroke	3.4375 x 2.60 in.
Horsepower	80 @ 4,400*
Torque	128 @ 2,300**
Compression ratio	8 to 1†
Wheelbase	108 in.
Over-all length	180 in.
Height	51.5 in.

*Monza with Powerglide 84 @ 4,400, high performance engine 102 @ 4,400

**Monza with Powerglide 130 @ 2,300, high performance engine 134 @ 2,800-3,000

†Monza with Powerglide and high performance engine, 9 to 1

let. It is available in ratios of 3.27 to 1, 3.55 to 1 and 3.89 to 1.

Heavy-duty suspension is optional on coupes and sedans. Heavier, higher-rate springs, recalibrated shock absorbers, a link type front stabilizer bar and rebound straps for the rear axle make up the package.

Length of the lining on the primary shoes of both front and rear brakes has been increased from 7.85 in. to 8.62 in., raising total [CONTINUED ON PAGE 134

Monterey Only Full-Size Mercury

Offered in two series and 12 body styles for 1962 . . .
New Meteor will be 203.8 in. over-all on 116½ in.
wheelbase . . . Engine to be 101 hp 6, with V-8 optional

Top of the 1962 line for Mercury is the Monterey, only full-size car to carry the familiar nameplate. The Mercury Comet, described in last month's MOTOR Magazine, and the new Meteor, which will be publicly announced next month, complete the line.

The Meteor will have a wheelbase of 116.5 in. and over-all length of 203.8 in. Buyers will have a choice of 170 cu. in., 101 hp 6 cyl. engine or a new 221 cu. in. V-8 developing 145 hp. The V-8 will be equipped with hydraulic valve lifters. Like the Monterey, the Meteor will offer 30,000-mile chassis lubrication, two-year, all-weather coolant and self-adjusting brakes. Bodies will be unitized and will be offered in two- and four-door sedan models.

Retaining its 120 in. wheelbase, the Monterey is 1 in. longer over-all than corresponding 1961 models. Twelve body styles are available in two series—Monterey and Monterey Custom. The most noticeable styling changes are the new convex grille and round-



Monterey Custom four-door hardtop for 1962. New models retain 120 in. wheelbase but are 1 in. longer over-all

ed, finless rear quarter panels with long, tubular tail-lights.

Service intervals have been further extended. Recommended oil-change period is now 6,000 miles, instead of 4,000. Factory-fill, glycol-base coolant is said to give protection against freezing down to 35 deg. below zero and protect the cooling system against corrosion for 30,000 miles. A new fuel filter is also designed for a life of 30,000 miles. The same mileage is specified for repacking of front wheel bearings and universal joints, which are lubricated with molybdenum disulphide grease.

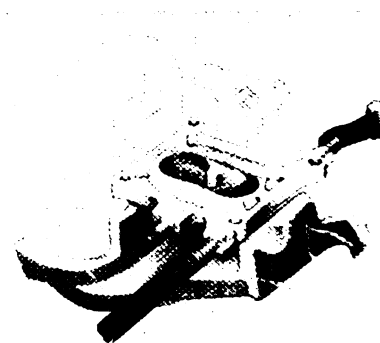
Both upper and lower ball joints are now spring-loaded for automatic take-up for wear. The new spring in the lower joint keeps the ball in contact with the seat, eliminating [CONTINUED ON PAGE 174]



Lowest priced full-size Mercury, Monterey two-door sedan. Convex grille and rounded, finless rear quarter panels are biggest styling changes

MAJOR DATA

	6 cyl.	V-8	V-8	V-8
Displacement	223 cu. in.	292 cu. in.	352 cu. in.	390 cu. in.
Bore and stroke	3.62 x 3.60 in.	3.75 x 3.30 in.	4 x 3.5 in.	4.05 x 3.78 in.
Horsepower	138 @ 4,200	170 @ 4,200	220 @ 4,300	300 @ 4,600
Torque	203 @ 2,200	279 @ 2,200	336 @ 2,600	427 @ 2,800
Compression ratio	8.4 to 1	8.8 to 1	8.9 to 1	9.6 to 1
Wheelbase	120 in.	120 in.	120 in.	120 in.
Over-all length	215.5 in.	215.5 in.	215.5 in.	215.5 in.
Height	54.9 in.	54.9 in.	54.9 in.	54.9 in.



Water-heated carburetor spacer on 352 cu. in. V-8. New design eliminates manifold heat control valve and helps prevent carburetor icing

Rambler Offers Automatic Clutch

New E-Stick unit on American uses three-speed manual drive . . . Dual safety brake system now standard on all models . . . Lube interval to 33,000 miles

MAJOR DATA

	American De luxe Custom	American 400*	Classic 6	Ambassador V-8
Displacement	195.6 cu. in.	195.6 cu. in.	195.6 in.	327 cu. in.
Bore and stroke	3 1/8 x 4 1/4 in.	3 1/8 x 4 1/4 in.	3 1/8 x 4 1/4 in.	4 x 3 1/4 in.
Horsepower	90 @ 3,800	125 @ 4,200	127 @ 4,200**	250 @ 4,700#
Torque	160 @ 1,600	180 @ 1,600	180 @ 1,600**	340 @ 2,600#
Compression ratio	8 to 1	8.7 to 1	8.7 to 1	8.7 to 1
Wheelbase	100 in.	100 in.	108 in.	108 in.
Over-all length	173.1 in.	173.1 in.	190 in.	190 in.
Height	56.1 in.	56.1 in.	57.5 in.	57.6 in.

*400 engine optional on De luxe and Custom

**With optional two-barrel carburetor, engine develops 138 hp @ 4,500 rpm and 185 lb.-ft. torque at 1,800 rpm

#Optional engine develops 270 hp @ 4,700 rpm, 360 lb.-ft. torque @ 2,600 rpm, has compression ratio of 9.7 to 1



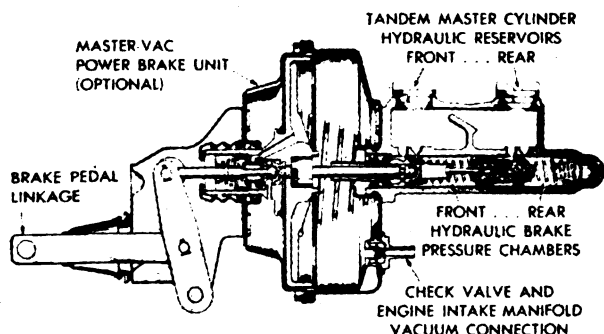
New front suspension on Classic and Ambassador V-8. Single lower control arm, with outer ball joint, replaces double arms

Rambler has unveiled an automatic clutch, introduced a new dual braking system and pared its models from 38 to 27 for 1962. The Classic V-8 series has been dropped and the wheelbase of the Ambassador V-8 shortened from 117 to 108 in. Lubrication intervals have been extended on all models.

The E-Stick, available only on the Rambler American, is an automatic clutch, coupled to a three-speed manual transmission, with or without overdrive. At a cost expected to be about one-third that of an automatic transmission, it relieves the driver of all clutch operation, although he must still shift gears manually. Because there is no fluid coupling or torque converter, fuel econ- [CONTINUED ON PAGE 178]



Control valve, shown on right front of engine, routes oil pressure to servo, which operates clutch on Rambler American's optional E-stick



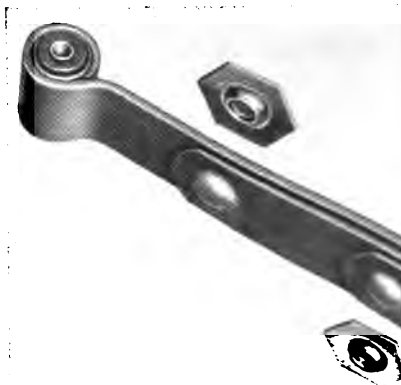
Cutaway of dual master cylinder. Design prevents failure due to leak in either front or rear brakes



Rambler American 400 convertible. New grille distinguishes car from 1961 model



Lark Daytona two-door hardtop, one of two models in new 1962 series. Bucket seats are standard



New plastic spring tip inserts, which replace full-length interleaf liner used previously

MAJOR DATA

	Lark 6	Lark V-8	Hawk V-8
Displacement	170 cu. in.	259 cu. in.	289 cu. in.
Bore and Stroke	3 x 4 in.	3 1/8 x 3 1/4 in.	3.562 x 3.625 in.
Horsepower	112 @ 4,500	180 @ 4,500	210 @ 4,500
Torque	154 @ 2,000	260 @ 2,800	300 @ 3,000
Compression ratio.....	8.25 to 1	8.5 to 1	8.5 to 1
Wheelbase	113 in.*	113 in.*	120 1/2 in.
Over-all length	188 in.**	188 in.**	204 in.
Height	56.5 in.	56.5 in.	55.5 in.

*Two-door sedan, convertible and hardtop 109 in.

**Two-door sedan, convertible and hardtop 184 in.
Station wagon 187 in.



Gran Turismo Hawk, now hardtop instead of coupe. Tachometer, four-speed shift are optional

Lark Daytona Series Bows

New Studebakers for 1962 offer two models with bucket seats . . . Hawk now hardtop . . . Compression ratios cut

A new Lark Daytona series and a "Gran Turismo" Hawk head the 1962 Studebaker line. Over-all length of all Larks has been increased, while wheelbase has been lengthened on all but the Cruiser and station wagon. Compression ratios of both the 6 and V-8 have been reduced to permit operation on regular fuel.

The Hawk has been changed from a coupe to a hardtop and extensively restyled. The rear section of the roof has been squared off by the addition of a new panel and the wrap-around rear window replaced by a simpler curved type. The words "Gran Turismo" appear on the doors in script.

The Daytona series consists of a two-door hardtop and a convertible, available with either 6 cyl. or V-8 engine. Front bucket seats, separated by a console, are standard. Reclining seats are optional. A four-



Cars with standard and overdrive transmission have this new rear engine mount, designed to reduce driveline noise and vibration

speed transmission with floor shift is available with the V-8 engine. Special side moldings and interior trim distinguish the Daytonas from other Larks.

The two Daytona models have the same over-all dimensions as corresponding body styles in other series. Wheelbase is 109 in., 1/2 in. more than in 1961. Over-all length has been in- [CONTINUED ON PAGE 186]



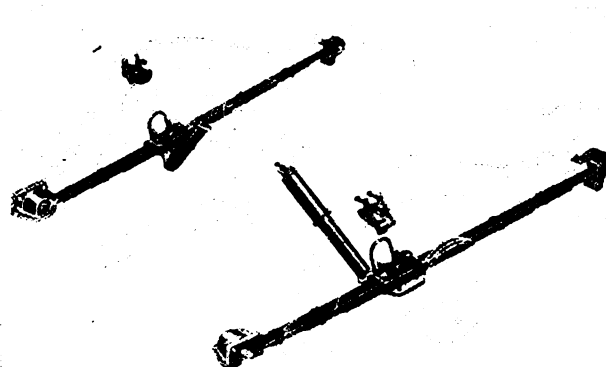
Two-passenger sports roadster, new addition to line. Fiberglass covers space behind front seat

Two-Passenger Thunderbird Bows

Landau hardtop also added to 1962 line . . . Optional 340 hp engine offered . . . New rubber bushings used for rear axle mounting



New grille and rear-quarter decoration distinguish this 1962 Thunderbird hardtop



Rear suspension incorporates large rubber bushing at front spring eye and a rubber mounting at axle to cut noise and vibration

For the first time in four years, Ford offers a two-passenger Thunderbird for 1962. The new sports roadster, which has a fiberglass cover over the rear-seat area, is one of two new models in the 1962 line. A Landau hardtop, with vinyl-covered roof and a decorative S-shaped bar on the side of each rear roof panel, is the second. The two newcomers join the regular hardtop and convertible to bring the number of models to four. Exterior dimensions are the same as in 1961.

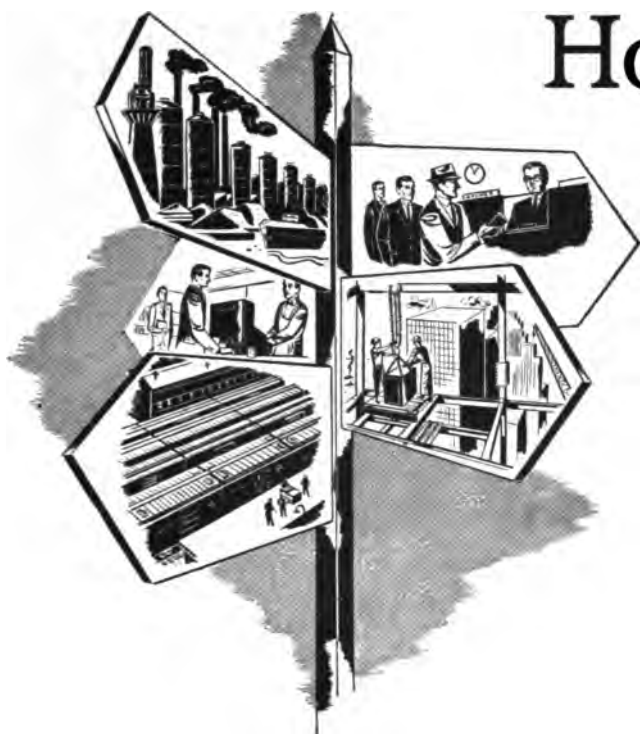
Principal mechanical changes are an optional 340 hp engine and new rubber mountings for the rear suspension. Cooling systems are filled at the factory with glycol antifreeze, said to give protection against freezing and corrosion for 30,000 miles. Oil-change interval has been extended from 4,000 to 6,000 miles.

All Thunderbirds have new grilles and different ornamentation on the rear quarter panels. The sports roadster has wire wheels with chrome-plated spokes and rims and imitation [CONTINUED ON PAGE 185]

MAJOR DATA

Displacement 390 cu. in.
Bore and stroke . . . 4.05 x 3.78 in.
Horsepower 300 @ 4,600*
Torque 427 @ 2,800
Compression ratio 9.6 to 1
Wheelbase 113 in.
Over-all length . . . 205 in.
Height 53.5 in.

*Optional engine develops 340 hp at 5,000 rpm, 427 lb.-ft. of torque at 3,600 rpm and has compression ratio of 10.5 to 1



How's Business?

MOTOR'S Monthly Summary

being built as a hedge against a possible price rise. Industrial output in August rose to 113 per cent of the 1957 average—a new high.

CARLOADINGS... In one week last month rail freight loadings came to a shade under 600,000 cars. Although volume has improved, loadings for the year are running 10 per cent behind the 1960 pace. Inter-city truck tonnage, on the other hand, has consistently shown gains over 1960 levels, particularly during August and September.

EMPLOYMENT... The jobless total fell by 598,000 in August to 4,542,000. Number of jobholders rose to 68,539,000, a record high for that month. Labor Dept. reports that unemployment may dip below 4,000,000 in October.

PRICES... Average wholesale prices in primary markets fell to 118.7 per cent of the 1947-49 base early last month. Decreases were registered for farm products and industrial commodities. Consumer prices edged up 0.4 per cent to a record 128.1 of the 1947-49 average.

CONSTRUCTION... Despite declining private housing starts, over-all construction in August was running at an annual rate of \$58,300,000,000, 4 per cent greater than a year earlier. Forecast is for home building activity to pick up in closing months of this year, producing a total of nearly 1,300,000 units for 1961.

PERSONAL INCOME... Annual rate of personal income declined slightly in August, down to \$419,300,000,000 from the preceding month's record high of \$421,200,000,000. Despite the drop, the annual rate may total \$425,000,000,000 by the end of December.

CREDIT... While there has been an expansion in commercial bank credit, consumer credit demands have eased up in recent months. Installment loans are down and demand for mortgage loans has dipped. Upshot is, more than adequate funds are available for borrowers and will remain so for the remainder of the year.

RETAIL SALES... For the first eight months of the year sales have fallen below year-earlier levels. Economists attribute this to a high rate of savings and trimming of installment debts by consumers. Outlook is for a surge of retail buying in November and December.

Business Barometer Points Up

Over-all activity along the business front continues to be brisk. The front-runners are industrial production, personal income and construction. Employment and retail sales remain below past levels but are expected to improve as business accelerates.

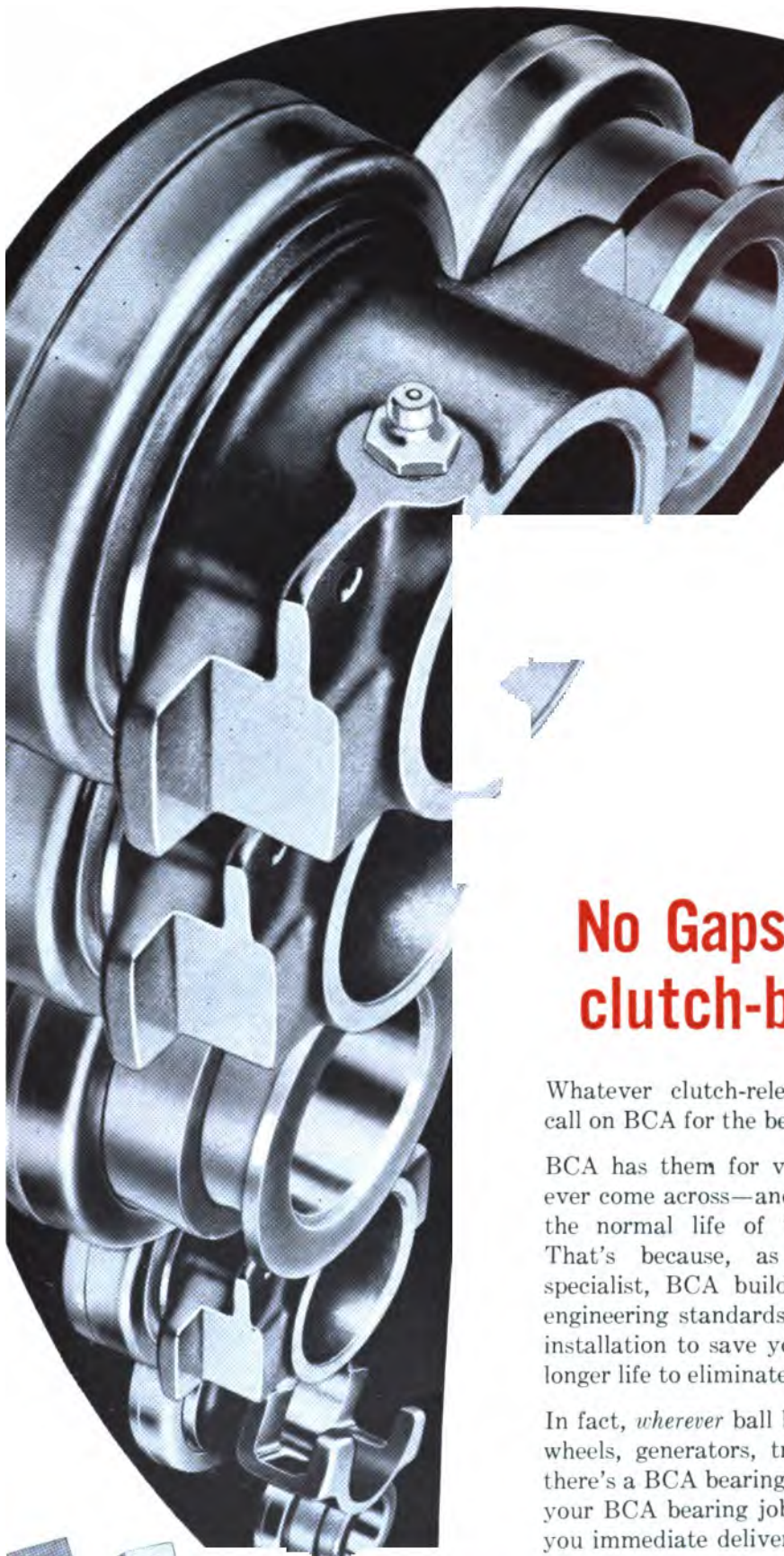
The only possible barrier to continued advancement now and in the months ahead is labor-management strife in any of the major industries.

Government officials and economists expect that this year will see new highs established for the construction industry, personal income and industrial output. But it is significant that many, rather than a few, sectors of the economy are benefiting from increased business. There is a marked diffusion of strength, indicated by the Federal Reserve Board's index of industrial production, which edged into new high ground in August, hitting 113 per cent of the 1957 average.

Despite the resiliency and depth of the business upturn, unemployment still persists. Approximately 6.9 per cent of the labor force—4,542,000 workers—is idle. However, the Labor Dept. expects the unemployment rate to drop to 5½ to 6 per cent by the end of the year.

As long as there is peace on the labor-management front, the economic outlook is bright.

PRODUCTION... Demands for steel and copper continue at high levels. In one week last month steel production rose to 2,032,000 tons, the sixth consecutive week in which output had increased. Producers say there is no evidence that steel stocks are



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BUICK

Keeps Fuel Pump Dry

When cleaning the engine or engine compartment on 1957-1960 models, care should be taken to prevent water from getting into the fuel pump. Water can enter the pump through two small vent holes located in the top of the pump casting. When freezing temperatures are encountered, the water can freeze and prevent the pump from functioning.

The freezing condition can be mistaken for frozen water in the gas line, because the engine will start and run until the fuel in the carburetor is used. The engine then stalls and cannot be restarted.

To prevent the possibility of water entering the pump during the cleaning operation, insert small, tapered plastic plugs, or similar units, in the pump's vent holes before starting the cleaning job. Be sure to remove them after the job is done.

CADILLAC

Ends Governor Gear Play

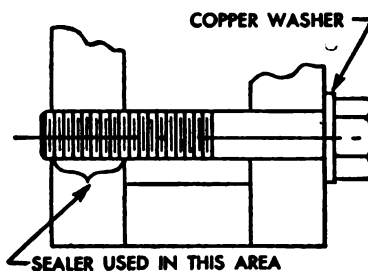
End play in the governor drive gear on the output shaft of 1961 Hydra-Matics, beginning with transmission serial No. C-84451 and CA-4191, can be eliminated by installing a new front snap ring, part No. 8620896. The end play can cause a minor rattling noise, similar to that caused by a speedometer cable. The new snap ring is identified by a daub of white paint on the ring.

To pinpoint the cause of the noise, disconnect the speedometer cable at the extension housing on the transmission, and remove the speedometer pinion gear. Then reinstall the pinion retaining sleeve, reconnect the cable and road-test the car. If the noise persists, the trouble is in the transmission and the new snap ring should be installed.

The front snap ring is a spring loaded type and both snap rings must be fully seated in their respective grooves on the output shaft. It may be necessary to use a length of pipe or a brass drift to seat the rear snap ring fully after the front snap ring, drive gear and key have been installed.

CHEVROLET

Ends Overdrive Leakage



Copper washer is placed under head of retaining bolt and a sealer is applied to threads

On early production 1961 overdrives, only the extreme lower attaching bolt required sealing, since this was the only bolt hole which extended into the gear cavity in the case. In later production, the hole for the lower left bolt also extends into the gear

cavity. A sealer is applied to the bolt threads in production, and copper washers are now used instead of lock washers under the heads of both bolts.

If a lubricant leakage occurs at either of these bolt locations, install a copper washer, part No. 231343 under the head of the bolt. This washer is the same as that used at the inlet of a brake wheel cylinder. Coat the threads of the bolt with a suitable sealer before installing it.

CHRYSLER

Cures Rear End Noise

A creaking or grunting noise from the rear on a 1957-61 Imperial occurring when the car is turned sharply, such as into a driveway, can be due to movement between the strut bushings and the rear axle or frame brackets. To eliminate the noise, torque the bolts on the strut bushings to 65 lb.-ft. and road-test the car. If the noise is still present, install a new bushing assembly, part No. 1635600, and torque the bolts to 65 lb.-ft.

A thump, thud or popping noise occurring when the car is driven under heavy torque over a dip in the road surface can be caused by the yoke splines on the center joint sticking on the propeller shaft. To correct this, remove the shaft and separate it at the splines. Note the index marks

[CONTINUED ON PAGE 68]

What Caused This?

Shortly after the installation of a rebuilt Fordomatic transmission, the customer's car was towed back to the shop with the complaint of "no drive" in any forward range. The repairman, knowing the driver's heavy-footed tendencies, suspected the transmission had been abused. After tearing it down, however, he had to revise his opinion. The chipped-out ends of the splines in this front clutch cylinder gave him the clue he needed to determine the cause of the failure. Do you know what did the damage? Answer appears on page 172.



Factory Service Slants

continued from page 67

on the joint yoke and the front shaft. Clean and check the splines for damage and, if necessary, replace any worn parts.

Lubricate the splines thoroughly before reassembly with a fluid molydisulphide lubricant, or an SAE 90 gear oil with a 10 per cent molydisulphide additive.

MERCURY

Replaces Brake Release Knob

If the knob on the parking-brake release comes off the shaft, it is not necessary to replace the park brake cable assembly. A windshield wiper control knob, part No. COAF-17513-A, can be installed as a replacement for the original knob.

To install, disconnect the cable from the control assembly and pull the release shaft out far enough to remove the knurling from the shaft. Now fit a wiper control knob assembly on the shaft. Tighten the Allen set screw on the knob to leave a mark on the shaft.

Loosen the Allen set screw, remove the knob, and file a notch

in the shaft at the location marked by the set screw. Then reinstall the wiper knob and tighten the set screw down into the filed notch. Connect the cable to complete the job.

OLDSMOBILE

Installs Hydra-Matic Seal

Garter-type seals used as a service replacement on 1946-55 "R" type Hydra-Matics must be properly installed to prevent their becoming dislodged during installation into the front pump.

An installer tool is recommended to make certain seal is correctly positioned. Do not apply excessive force since this could cause the seal cage to become distorted or damaged. After installation, inspect the seal to be sure the spring or part of the spring is not dislodged. Should the spring be dislodged, install a new seal.

RAMBLER

Stops Gas Cap Leak

To keep fuel from leaking from the gas cap vent on a hard right turn on a 6101 series car, drill the existing 10-32 hole in the filler cap handle ornament to $\frac{3}{16}$ in. Then rethread the hole with a $\frac{1}{4}$ in.—20 tap. Now install a new

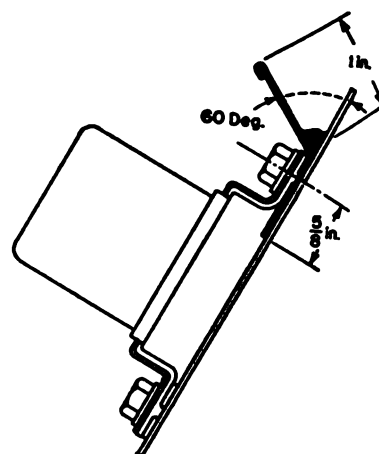
vented screw, Part No. 3165710, and a screw gasket, part No. 3165711, to secure the ornament.

Install an "O" ring, part No. 3132516, behind the large fiber gasket on the cap to close off the original venting system. This installation vents the tank at the flat cut in the new vented screw.

If leakage occurs at the flange on the filler neck and cap retainer, remove the four screws from the cap retainer plate. Check the holes in the rubber filler hose for proper alignment. If the holes cannot be aligned without force, seal the area with a sealer material which is not soluble in gasoline. In addition, make certain the cap retainer plate is not distorted.

PLYMOUTH

Waterproofs Regulator



Shield, installed at 60 deg. angle, serves as a baffle to protect regulator from water

Erratic operation or premature failure of the voltage regulator can be caused by water grounding out the resistor terminals. Water and dirt may, in some cases, enter the engine compartment through the gap between the fender and hood, or between the fender flange and fender side shield.

To protect the regulator from water, cut a 2 by 6 in. shield from sheet metal approximately .020 to .030 in. thick. After it has been shaped, finish off the cut edges of

[CONTINUED ON PAGE 73]

with emery. Then drill the shield so that it can be used with the regulator retainer. After the shield is installed, use a sealing material.

BUICK, VALIANT Clutch Cam Replacement

The running clutch cam, part number 2279960, is now available as a replacement for the "6" transmissions. The new cam eliminates the need for replacing the transaxle when a clutch cam is replaced because of wear. In production the cam is riveted to the case with rivets. Replacement has threaded holes.

Replace a defective cam, the heads of the five $\frac{1}{4}$ in. Enlarge the $\frac{15}{64}$ in. in the case to $\frac{17}{64}$ in., to accommodate the new replacement screws. Use the new cam to the lock washers and screws. Tighten the screws to 100 in.-lb.

PONTIAC Wipers

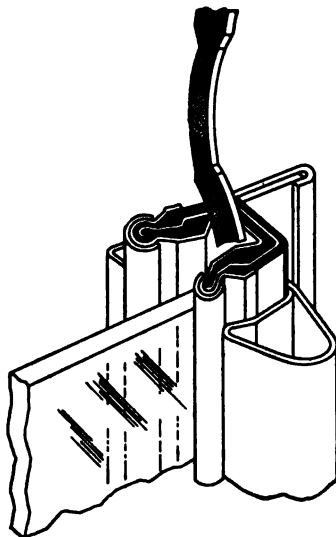
Problems on windshield wipers are caused by improper handling of the wiper blades when the car is parked.

When moving the wiper arms out of position, use the power of the motor to place the arms in the correct position and then turn the ignition switch. Using the wiper arms while the wiper motor can be damaged if unnecessary force is applied. Under no circumstances should the component parts of the wiper and linkage be moved.

The end play is adjusted correctly and, except during the operation of the motor, should not be changed. Changing the position of the end play adjusting screws cause the gears to be loaded when applied.

BODY

COMET Improves Glass Fit



Insert filler strip between door or quarter glass and run

Excessive fore-and-aft movement of door and quarter window glass encountered on some 1960-61 models, can be corrected by installing filler strips. The strips, which can be purchased locally, are 18 in. long and made of wavy-steel with felt cemented on one side. The strip acts as a spacer between the run and the edge of the glass to prevent excessive play.

To install the filler strip, lower the window and insert the narrow end of the strip between the edge of the glass and the throat of the glass run until the top of the strip is just even with the upper run. The strip can be inserted in either the front or rear run on door windows, but only in the front run on quarter windows.

Next, force the filler into the run with a flat-bladed screwdriver and roll the window up and down a few times to position it in the run. If the operation is too hard at any point, remove the strip and reduce the waves in the strip by bending.

If the window runs on either the doors or the rear quarter are worn excessively or misaligned, the filler strips should not be in-

stalled as a correction. In such cases it is recommended that new glass runs be installed.

CHEVROLET Removes Seat Cushion

The large armrests and snug fit of the rear seat cushion on late model 1961 sport coupes and convertibles may present a problem in removing the cushion.

To remove the cushion easily, and without damage to the trim material, first move the front seat assembly to its full forward position. Then lift upward on the front edge of the rear cushion to disengage it from the retainers.

With a helper, pull the cushion forward, keeping it level and low to prevent it from binding, and start it out of the opening. When the cushion is more than halfway out of the opening, and before it contacts the front seat, start to swing the front edge upward.

Keep the rear low and continue to move the front forward and upward until the cushion is vertical and out of the opening.

STUDEBAKER Eases Lock Operation

The tab which retains the hood lock control cable to the battery hold-down bracket is no longer used on 1961 Larks. With the tab removed the cable assembly lies in a more gradual curve.

To correct a condition where the hood lock and control cable binds and does not return to the released position, remove the cable from the tab which secures it to the battery hold-down bracket. This will allow the cable to lie on top of the battery bracket and against the fender apron.

If the assembly still binds, unhook the cable from the latch plate lever and check for a bind in the latch plate. If the cable now operates freely and the latch plate binds, repair or replace the latch plate. If the bind is in the cable, replace the cable assembly. Do not attach the tab.

SELL **MONRO-MATIC**[®] SHOCKS

BY THE BARREL! join thousands of dealers

Dealers across the country are happily discovering the Monroe BD-18 "barrel of profits" deal to be one of the best money-makers in years. Packed in a steel barrel that doubles as an eye-catching display piece are 14 of the most popular Monro-Matic shocks and 4 Super Load-Leveler[®] stabilizing units. Fastened to the underside of the barrel lid is a shock absorber demonstrator. Flip the lid, weight the barrel with sand or water, and the comparison demonstrator is set to sell shocks like you've never sold them before! The experience of thousands of dealers shows that customers just can't resist trying the demonstrator.

And once they compare for themselves the action of a worn shock with a new Monro-Matic, the sale is a cinch!

Monro-Matics get a mighty push from a sweeping advertising campaign that hits month after month in LIFE, THE SATURDAY EVENING POST; LOOK, HOLIDAY and SPORTS ILLUSTRATED; POPULAR MECHANICS, POPULAR SCIENCE and MECHANIX ILLUSTRATED; FIELD & STREAM, OUTDOOR LIFE and SPORTS AFIELD . . . and Bill Stern's "Monroe Sportsreel" on more than 325 stations of the Mutual radio network.



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Cost . . . 140.90

YOUR PROFIT \$ 87.30

FREE!

\$10 Shock Demonstrator
2 Shock Absorber Window Banners
\$5 Painted Barrel Test Stand
10 ft. Plastic Outdoor Banner
100 Handout Leaflets

MONROE AUTO EQUIPMENT CO.
MONROE, MICHIGAN

World's largest maker of ride control products, including **SUPER LOAD-LEVELER®** stabilizing units • In Canada, MONROE-ACME, Ltd., Toronto, Ontario. In Mexico, MEX-PAR, Box 21854, Mexico City



Shock absorber sales increased 70% with the Monroe Demonstrator, reports Frank Gottman, E. Dearborn, Mich. He is one of thousands of dealers cashing in heavily on the Monroe "Barrel of Profits."





\$10 for Your Ideas

Have you come across any timesaving short cuts or solutions to tough repair problems? If you have, and the idea is a good one, MOTOR will pay you \$10. If your idea needs an illustration, just enclose a rough sketch in your letter. MOTOR'S artists will do a finished drawing.

When your idea applies to one particular car make, be sure to give the make and model year of the car.

Naturally ideas which have already been used or offered elsewhere cannot be considered.

So grab a pencil and jot down your idea on your shop's letterhead or billhead. Then mail it to "Fix It" Editor, MOTOR, 250 W. 55th St., N. Y. 19, N. Y.

Have Troubles? Readers Tell How To

FIX IT

Quicker Clean-Up

We have found a way to save time when cleaning our lubrication bay. Before the job is started place a large square of plywood or other suitable material on the lift. Then set all the small equipment, such as tire tools, grease guns and water cans, on the plywood square. Raise the lift, and everything is out of the way for cleaning.

This cuts in half the time usually taken to move the equipment from one side to the other and back again. In addition, the equipment doesn't have to be moved as far.

—DAVID HANLIN
Hanlin Cities Service
Mobile, Ala.

Unsticks Throttle

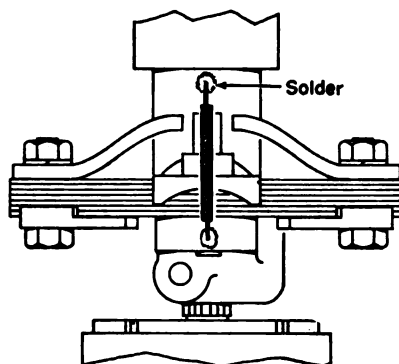
On the Ford four-barrel carburetor on 1959-61 models, sticking of the secondary throttle can keep it from closing completely and cause a fast, rough idle.

To correct the condition, remove the adjusting screw from the fast-idle arm and take the plastic pin out of the arm. Cut a $\frac{5}{8}$ in. length from $\frac{1}{4}$ in. brake line tubing to act as a sleeve. Install an 8/32 by $\frac{3}{4}$ in. bolt and nut

in place of the plastic pin and place the tubing sleeve over this bolt. Adjust the sleeve so that it touches the secondary throttle arm when the primary throttle is properly adjusted. Then replace the fast idle screw and adjust it.

—ERNEST PEALE
Citrus Motors Ontario, Inc.
Ontario, Cal

Restores Horn Ground



Faulty horn ground circuit is cured by soldering wire across coupling on the steering post

In many cases where a horn blows only intermittently on a 1961 Ford, or not at all, the failure is caused by a bad ground. Of course the same condition can also occur on other cars.

We have found that a great

deal of time can be saved in restoring the ground by simply soldering the ends of a No. 20 copper wire to jump the universal coupling on the steering post. This grounds the circuit to the frame. This is faster than trying to find out where the ground interruption exists in the steering column and correcting it.

A temporary jumper lead connected across the coupling provides a fast means of checking the cause of the trouble. When this establishes that a defective ground is the cause of the trouble, a wire soldered across the coupling is a permanent correction.

—JOHN PUCYLOWSKI
Henson Ford, Inc.
Hattiesburg, Miss.

Simpler Camshaft Removal

Camshafts can be removed and replaced on 1957-58 Oldsmobile factory-equipped with air conditioning without removing the oil pan. Further, it is not necessary to discharge the Freon.

To save time, remove the mounting bolts on the air compressor and tie the compressor on top of the right front fender. Now, in the following order, remove the battery, evaporator cover, intake manifold, engine top cover, valve covers and the rocker arms and push rods. Remove lift covers, lifters, and distributor.

Next, take off the radiator, brace support and lower tie bar. Remove the clips which hold it

[CONTINUED ON PAGE 80]

**“From start to finish...
a plan that fits all our needs”**

says **H.W. PEARCE, Jr.**,
Ford dealer, Jackson, Ala.

“I’ve been using the Commercial Credit Plan for ten years. From start to finish, it’s a plan that fits all our needs. From faster acceptance of the paper to better collection experience, it’s a plan that really covers time sales. We have almost complete control over the deal, and the control lasts because of collision and comprehensive insurance. We get a nice volume of repair work that might otherwise be lost. All in all, the plan’s greater flexibility helps us obtain greater market penetration. That’s why we’re happy to offer bonuses to salesmen who sell the Commercial Credit Plan with the car.”

***Commercial Credit
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For complete information on how our service can help promote your success, call or write the Commercial Credit Corporation office nearest you.



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CP-720 "MIDGET" AIR-WRENCH is ideal
for carburetor, and ignition work...small gasoline
engines, too! Compact, this reversible $\frac{3}{8}$ " drive wrench
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ing specialists

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muscles
shackles.
re drive;
capacity.



to front-end specialists

a CP-750 "Reliant"
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shocks, body bolts.
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5/8" bolt capacity.



to line mechanics

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Air-Wrench is great
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clutches, head bolts.
1/2" square drive;
1/2" bolt capacity.



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better work, more jobs
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Company _____
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Getting the Business



Fix It

continued from page 76

air conditioner line to the upper tie bar. Lift the condenser up 2½ in. and move the bottom forward to rest against the grille. Then remove the timing-gear cover and lower the engine. The camshaft can then be slipped out under the condenser.

When installing the camshaft, first remove the dowel pins that align the timing gear cover. Then, after the cover is in place, with all cover bolts started and pan bolts tight, reinstall the dowels.

—W. W. HALEY
Noble Old, nobile
Andrews, Tex.

Checks Oil Seepage

Sometimes oil seepage from an oil-pan drain plug, or from other similarly constructed plugs, is hard to eliminate. This is especially true when an oversize drain plug has been installed, at a slight angle, and the gasket does not seat properly.

In such cases, the seepage can be eliminated by slipping a valve-stem seal over the threads of the drain plug before installing it. The correction is especially effective where there is a small re-

cessed groove at the bottom of the threads. If preferred, the valve stem seal can be installed first, followed by the usual brass or copper gasket. This works well, too.

—A. B. ANDERSON
Anderson's Service
Red Oak, Ia.

Straightens Needle

A bent speedometer needle can be straightened on a 1957-59 Ford without removing the speedometer. On Fordomatic-equipped cars, remove the selector plate from the dash. On manual-shift transmissions, remove the plain plate. Then force up the outside end of the plastic cover.

Now, use two feeler gauges, each approximately .015 in. thick, to straighten the needle. Hold the needle with one feeler and straighten it with the other. Then reassemble to complete the job.

—GARY L. EVANS
Day and Nite Garage
Beckley, W. Va.

Replaces Cover Seal

A considerable amount of time can be saved when replacing a camshaft timing gear cover seal on a Chevrolet 6 cyl. engine by using a Powerglide front-pump seal puller. After the radiator and

vibration damper have been taken off, install the puller and remove the seal.

This saves the time normally required to remove the oil pan and timing-gear cover. The same method and tool can be used on a number of other cars.

—CONRAD RACING
Rene's Garage
South Burlington, Vt.

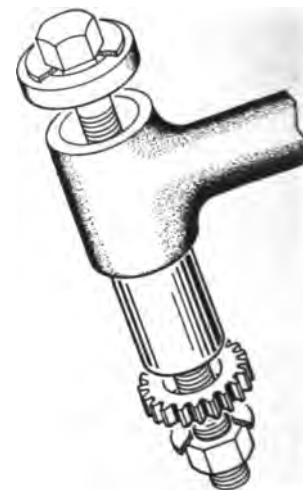
Removes Frozen Nut

In some cases, as a last resort, a frozen nut has to be cut with a chisel and then hammered off. This is never an easy operation.

To achieve the same results, with much less work, hold the nut with a pair of vise-grip pliers and drill a hole in the nut parallel to the bolt threads. Now, with a chisel, peel the nut off. It's much easier than trying to use a chisel for the entire operation.

—AVERY CONTRELL, Jr.
Barnes-Rhodes Co.
Chattanooga, Tenn.

Installs Idler Bushing



New idler arm bushing is pulled into place with bolt and spacers

The usual method of replacing idler arm bushings on 1955-57 Chevrolets requires removal of the idler arm. The job can be done without removing arm.

First, the old bushing can be removed quickly with a metal cutting power tool. The new bushing can then be pulled into place with an 8 in. long ½ in. SAE bolt and a pair of discarded Power-

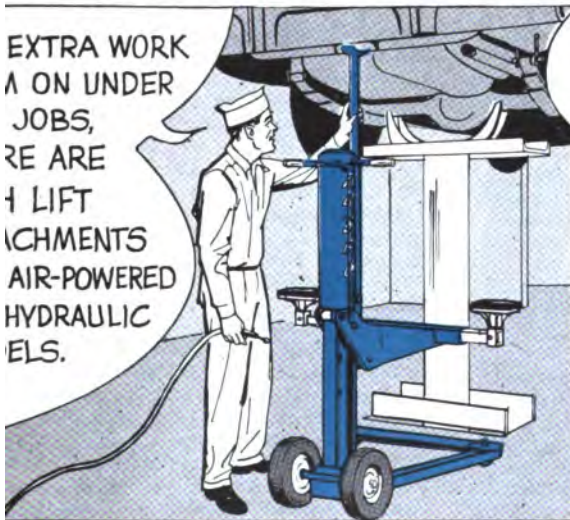
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Will like these **LIVE RUBBER LIFT PADS*** on Ausco One-End Lifts. They can't slip and they protect paint and chrome.

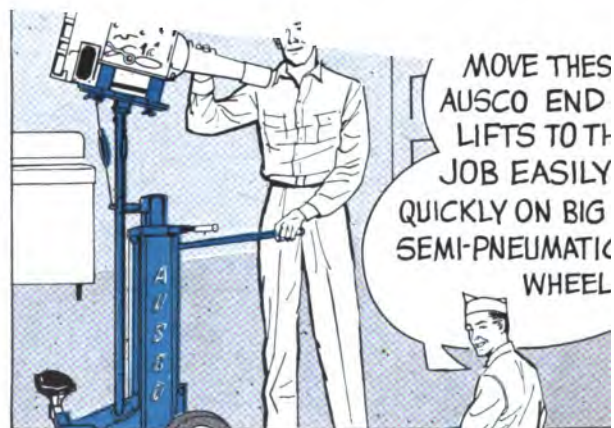


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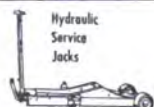
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Hydraulic
Hand
Jacks



Hydraulic
Service
Jacks



Transmission
Handlers



Winners of Champion's 1961

Here they are! The dealers and dealer-employees listed below are the lucky people who won from 1,160 fabulous prizes in Champion's big contest—simply by checking customers' spark plugs . .



Knud Lund, assistant manager of K. A. Silva's station, Santa Cruz, Calif., scored second prize: A 1961 Comet.



Roger Jalbert, mechanic at Laval Esso Service, Pont Viau, Quebec, captured third prize: A 1961 Falcon.



M. J. Doyle, a Gulf dealer in Memphis, Tenn., took fourth prize: A 1961 Lark.



W. P. McAlhany, manager of City Filling Station, Newberry, S. C., won fifth prize: A 1961 Rambler American.



C. D. Weatherbee, of Weatherbee's Sunoco Service, Philadelphia, Pa., was top "multiple prize winner," receiving 5 items.



P. Hutchison, an employee of the Milltown Garage, Westchester, Pa., won grand prize: His own, all-expense paid, luxury airliner—for two weeks to any points on the North American continent . . plus \$5,000.00 cash!

6th prizes, Lone Star heating outfits, were won by . . .
G. Klock, Frackville, Pa.
J. Gonsalves, Hartford, Conn.

7th prizes, Stromberg-Carlson radio—hi-fi's, now belong to . .
E. J. Witkowski, Buffalo 2, N. Y.
B. Dierendouck, Princeton, Ill.
G. Gilbreath, Fort Payne, Ala.
R. A. McCune, Penticton, B.C.
O. Briggs, Los Alamitos, Calif.
Joe Lakaer, Maple Hts., Ohio
W. Patterson, Cleveland Hts., Ohio
C. P. Durand, Oneonta, N. Y.
L. J. Jenkins, Columbus 21, Ohio
F. M. Miller, Miami, Fla.

8th prizes, Bell & Howell 8-mm. movie cameras, went to . . .
C. J. Scanlon, Lincoln, Nebr.
J. W. Warrack, Fort Bragg, N. C.
R. A. Eck, Indianapolis 5, Ind.
J. S. Conkida, Phoenix, Ariz.
B. M. Satkowski, Buffalo, N. Y.
C. F. McGee, Tulsa, Okla.
G. W. Hooton, Tecumseh, Mich.
R. Gramberg, Cleveland, Ohio
R. Charles, Salem, Ind.
V. Gonsalves, Hartford, Conn.
W. Schmidt, Racine, Wisc.
G. Sullivan, Elgin, Ill.
J. C. Premont, Quebec, Quebec
John O. Lamb, San Jose, Calif.
G. Sargent, Maywood, Ill.
N. V. Holmes, S. E. Renton, Wash.
F. C. M., St. Louis, Mo.
Leo L. Lucas, Pittsburgh 10, Pa.
J. L. Tomlinson, Bay City, Tex.
O. J. Caskey, Dallas, Tex.
Ray Vesta, Westchester, Ill.
J. D. Sante, Jr., Cranston 10, R. I.
H. H. Einink, Long Beach, Calif.
L. Mitchell, Arlington, Va.
C. D. Weatherbee, Philadelphia, Pa.

9th prizes, Evans Interceptor bicycles, were received by . . .
H. G. McElroy, Brownwood, Tex.
F. A. Mawing, Lima, Ohio
J. F. Nugent, Norwood, Mass.
W. Edwards, Louisville 6, Ky.
C. E. Bowen, Independence, Mo.
E. Guenard, Montmagny, Quebec
Sarah Phelps, Miami, Fla.
John Doe, Arvida, Quebec
V. Desgagne, Contre Chaclevioix, Quebec

10th prizes, Willmar, Minn.
P. M. Vinley, Brewer, Me.
R. Feltman, Oklahoma City, Okla.
O. Mazzucca, Glendale 27, N. Y.
H. A. Rollinson, Youngstown, Ohio
R. Zaehiez, Ogden, Utah
11th prizes, Willmar, Minn.
Ron Krony, Pittsburgh 26, Pa.
W. J. Schwan, Columbus, Ohio
L. L. Potts, Oceanside, Calif.
W. H. Wilson, Jacksonville 5, Fla.
Bill Haguiski, Joplin, Mo.
O. W. Cokley, Flossmoor, Ill.
Geo. Ledue, Montreal, Quebec
E. Kennich, Haugen, Wisc.
J. C. Sathan, Kansas City, Kans.
A. Coben, Akron 2, Ohio
Lewis Chalk, Moyock, N. C.
Parker Sphar, Plainfield, N. J.
P. E. Hembree, Cheyenne, Wyo.
W. Anderson, Roanoke, Va.
Bob Frailey, West Covina, Calif.
Ben L. Wyrick, Knoxville, Tenn.
N. D. Chieffe, Pittsburgh, Pa.
J. L. Marschang, No. Miami, Fla.
Jim Galla, Austin, Tex.
G. Hudek, Houston 36, Tex.
J. F. Woodruff, Springfield, Ohio
R. Papin, Bagotville, Quebec
G. Byrd, Long Beach 7, Calif.
A. N. Ladue, Ironwood, Mich.
H. M. Miller, Jefferson City, Mo.
K. Furr, Wesson, Miss.
G. A. Reed, Houston 21, Tex.

12th prizes, Shawinigan, Quebec
T. F. McCory, St. Paul 3, Minn.
Parker Sphar, Plainfield, N. J.
C. Weatherbee, Phila. 26, Pa.
Roy Roberts, Loveland, Colo.
Jim Moore, Oklahoma City, Okla.
M. Pelzi, Barney, N. Dak.
J. Craig, Wheat Ridge, Colo.
M. H. Bucy, Miami, Fla.
L. Johnson, Ogden, Utah
Don Moore, Ft. Lauderdale, Fla.
K. P. Briggs, Poughkeepsie, N. Y.
J. Zumwalt, Jefferson City, Mo.
B. C. Steven, Texarkana, Tex.
Bill Boudra, Ft. Worth, Tex.
R. Hedgecock, Janesville, Wisc.
Gary Temming, St. Louis 9, Mo.
W. F. Kwapich, Toledo, Ohio
Gary Temming, St. Louis 9, Mo.
Ray Doshur, Azusa, Calif.
James Porter, Inglewood, Calif.
C. S. Stokes, San Anselmo, Calif.
R. Leaggs, Salt Lake City, Utah
R. Ranft, Bayside, L. I., N. Y.
I. Rosenbaum, Pittsfield, Mass.
W. Smiley, Lincoln, Nebr.
J. Lemmer, Levittown, N. Y.
H. V. Scarff, Baltimore 9, Md.
E. A. Abraham, Oshkosh, Wisc.
Joe Fennig, Milwaukee, Wisc.
R. J. Thompson, West Chester, Pa.
Chuck Moon, Vancouver, Wash.
Mat Blett, Pacific Beach, Calif.
W. Berkley, Middlesboro, Ky.
J. Dorsett, St. Petersburg, Fla.
R. Villeneuve, Mont Laurier, Quebec
I. M. Greenberg, Miami Beach, Fla.
G. Sullivan, Elgin, Ill.
Bob Pulus, Elmhurst, Ill.
A. Stigen, Minneapolis 8, Minn.
J. E. Foster, Sr., Glassboro, N. J.
Wally Erdman, Janesville, Wisc.
J. G. Mauck, Falls Church, Va.
R. F. Wolf, Akron, Ohio

13th prizes, Braintree, Mass.
Kevin Maloney, Braintree, Mass.
M. Tremblay, Montreal, Quebec
E. C. Eadina, Sarasota, Fla.
A. Haider, Portland 6, Ore.
T. Leatherwood, Itasca, Tex.
W. E. Perman, Salt Lake City, Utah
B. Gravel, Chicoutimi, Quebec
Gale E. Jessee, Arlington, Va.
W. M. Spencer, Portland, Ore.
Larry Ansley, Beverly Hills, Calif.
M. S. Vance, Davenport, Iowa
F. Motor Sales, Lansing, Ill.
H. L. Carson, Vancouver 5, B.C.
Charles Lippy, Baltimore, Md.
Bill Lickie, Salisbury, N. C.
W. Shreve, Enid, Okla.
Russ Lash, Ft. Wayne, Ind.
J. Edmonds, Washington, D. C.
Delwa Tanner, Springfield, Va.
Edmund Badura, Milwaukee, Wisc.
L. L. Stokes, Gloster, Miss.
John Warren, Brooklyn, N. Y.
L. Westenskow, La Grande, Ore.
Frank Rick, Midlothian, Ill.
Tex Bror, Flushing 67, N. Y.
Dowey Hart, Independence, Mo.
W. L. Huffman, Casper, Wyo.
C. D. Weatherbee, Philadelphia, Pa.
I. C. Crouch, Louisville 6, Ky.
J. Bergerstoff, Lebanon, Ind.
Al Artz, Grosse Pte. Park, Mich.
George White, Austin 1, Texas
R. McCalla, Antwerp, Ohio
F. Craine, Lima, Ohio
S. Spengler, Ofallon, Ill.
L. V. Moore, Pt. Arthur, Texas
Larry Lemke, So. Bend, Ind.
Robt. F. Myers, York Co., Pa.
S. M. Grubaugh, Orlando, Fla.
Fred Green, Tulsa 4, Okla.
Henry Orlik, Dearborn, Mich.
F. H. Wells, Jr., El Paso, Tex.
Irvin Hilbert, Poneto, Ind.
Tom J. Gagnon, Two Rivers, Wisc.
A. W. Cappel, Wittenberg, Wisc.

14th prizes, Wauwatosa 13, Wisc.
Jerry Wear, Portland 14, Ore.
Paul Giguere, Chicoutimi, Quebec
Roland Fortin, Quebec 7, Quebec
J. Foulle, Montreal, Quebec
L. P. Oulmet, Dovernay, Quebec
G. L. Snyder, San Francisco, Calif.
Ted Ortega, Dallas, Tex.
Harry Abbott, Fresno 4, Calif.
N. L. Whittman, Norfolk, Va.
Benn Ladd, St. Louis, Mo.
A. L. Bridges, Detroit 24, Mich.
James C. Brown, Des Plaines, Ill.
Geo. Ricks, San Angelo, Tex.
John Hennie, Jupiter, Fla.
Donald Todzy, Appleton, Wisc.
B. Cornwall, Jacksonville 4, Fla.
J. W. Childs, Washington 8, D. C.
M. Hoffman, Valentine, Nebr.
Al Rinetti, Oakland 21, Calif.
George Essan, Houston, Texas
J. Morgan, Norfolk, Va.

15th prizes, Coleman camp stoves, were won by . . .
Bill Williams, Haverford 14, Pa.
Daniel Yoder, Bellefontaine, Ohio
E. Gerszyne, Hamtramck 12, Mich.
T. Lindom, Ypsilanti, Mich.
A. F. Treadwell, Plymouth, Fla.
M. E. Livick, Staunton, Va.
W. P. Bengtson, Dassel, Minn.
Glenn C. Smith, Perry, Mo.
C. T. Hukker, Washington, D. C.
Roy V. Miner, Chicago, Ill.
G. Nelson, Santa Clara, Calif.
Robert Savard, Quebec 3, Quebec
Don Van Meter, Bluffton, Ohio
John K. Detert, Waesae, Wisc.
J. R. Burns, Youngstown, Ohio
F. Centano, Redondo Beach, Calif.
L. R. Barker, S. Charleston, W. Va.
G. Graham, Mt. Clemens, Mich.
E. T. Croker, Delta, Colo.
R. J. Wolfe, Wenatchee, Wash.
D. Sledge, Duncan, Okla.

'Trip of a Lifetime' Contest

tion's 1961 "Trip of a Lifetime Contest" is the biggest auto parts contest ever run! In the country it prompted hundreds of thousands of motorists to visit their dealers. It saw a similar number of identical lucky motorists win 1,160 fabulous prizes. It was won by the lucky dealers and dealer-employees listed below.

It was just as important—it encouraged a vital boost in parts and service sales—thousands upon thousands of dealers behind this contest that was success-

fully designed to help them sell!

Champion is truly proud that its "Trip of a Lifetime Contest" was such an outstanding success—for so many of its friends.



iple Hts., Ohio
L. Louis 20, Mo.
report, Ky.
pokane 4, Wash.
Abbeville, Ala.
Stockton, Calif.
Milwaukee, Wisc.
v Westminster, B.C.
Johnstown, Pa.
haron, Pa.
y, N. Y.
bec, Quebec
nesville, Wisc.
w Bedford, Mass.
Pueblo, Colo.
rvis, Ill.
bethtown, Ky.
Richmond, Va.
cson, Ariz.
St. Louis, Mo.
Vestfield, N. J.
illes, Ohio
sbluff, Neb.
Atkinson, Wisc.
dalia, Ohio
Dunedin, Fla.
rnton 16, Colo.
Jackson, Mich.
n Diego, Calif.
Knoxville, Tenn.
Wauwatosa, Wisc.
Portland, Ore.
mpsonville, Conn.
rington 4, Va.
auwatosa 13, Wisc.
Rochester 9, N. Y.
Louis 19, Mo.
Montgomery, Ala.
limantic, Conn.
teward, Calif.
ville, Tenn.
nsburg, Pa.
Fayetteville, N. C.
y, N. Y.

Lewis Dardi, Roslindale 31, Mass.
Jim Morgan, Takoma Pk., Md.
V. McCullough, Madera, Calif.
Thomas Nash, San Gabriel, Calif.
Ray Stranga, McAlester, Okla.
G. Peterson, Little Falls, Minn.
Al Brocks, Detroit, Mich.
S. M. Cox, Miami, Fla.
Albert Turck, Portland 1, Ore.
Charles Brown, San Francisco, Calif.
R. Hutton, Augusta, Ga.
Rick Riewer, Glendale, Calif.
C. Blanchard, Augusta, Ga.
G. Nichols, Oklahoma City, Okla.
James Oman, Marysville, Wash.
Walter E. Shortt, Coronado, Calif.
Ed Carlson, San Lorenzo, Calif.
G. Donzella, Blauvelt, N. Y.
H. J. Cer, South Bend 19, Ind.
Phil Bellman, Eatontown, N. J.
W. F. Bennett, Brandon, Fla.
C. M. Davidson, Osawatomie, Kans.
C. Lloyd, Bremerton, Wash.
R. C. Smith, Milwaukee 22, Ore.
A. J. Muller, New Orleans, La.
Leo O. Parsels, Sarasota, Fla.
N. O. Thuy, Tracy, Calif.
M. Ondoire, Braddock, Pa.
R. Marshall, Philadelphia, Pa.
D. Fleetwood, Columbus, Ind.
C. De Spain, Midwest City, Okla.
D. R. Wiley, Albuquerque, N. M.
Jerry Ross, Oklahoma City, Okla.
R. Rogers, Chicago, Ill.
E. A. Bean, Callaway, Md.
H. G. McElroy, Brownwood, Tex.
R. Dufour, Riviere du Loup, Quebec

J. Blox, Portland, Ore.
A. Laujeau, Quebec, Quebec
Paul Schmidt, Watertown, Wisc.
Raymond Burch, Eugene, Oregon
J. Buckley, Anaheim, Calif.
F. G. Braun, Tahlequah, Okla.
C. Campeau, Montreal Nord, Quebec
M. Gabrieli, Providence, R. I.
J. Goffier, Punta Gorda, Fla.
Geo. Reiks, San Angelo, Tex.
L. Swadener, Portland, Ore.
Parker Sphar, Plainfield, N. J.
W. Warshal, Seattle, Wash.
Frank Gamble, Castro Valley, Calif.
B. Haskin, Anaheim, Calif.
Ernie Mueller, Indianapolis, Ind.
P. Giordanos, E. Huntingdon, Pa.
John Streib, Milford, Conn.
D. Audy, Lataque, Quebec
L. A. Beischel, Monrovia, Calif.
W. Stresse, Darien, Conn.
Bob Debassey, Los Altos, Calif.
Dave Kraebel, Buffalo, N. Y.
P. Quim, Santa Fe Springs, Calif.
Paul Chaykin, Fairless Hills, Pa.
E. J. Schneider, Winnipeg 4, Man.
W. A. Wilson, West Baden Springs, Ind.
Anna E. Urbanus, Dorchester 25, Mass.
M. B. Huldeen, St. Paul 6, Minn.
L. M. Hill, Cocoa, Fla.
J. Endean, Oak Park, Ill.
Roland Pince, Jonquiere, Quebec
W. L. Garrett, Richmond 26, Va.
G. H. R. Peters, Mt. Vernon, Wash.
J. Hovath, Rowayton, Conn.
H. Biltor, Saskatoon, Sask.
C. Pounds, Kenmore 23, N. Y.
R. Heywang, W. Englewood, N. J.
W. F. Hollman, Midland, Tex.
Ralph Pfarr, Kenosha, Wisc.
A. L. Price, Kansas City, Mo.
Jim Hannon, Lincoln, Nebr.

Richard Knack, Milwaukee, Wisc.
Eugene Abate, Fair Lawn, N. J.
H. E. Delacroix, New Orleans, La.
R. L. Anderson, Homestead, Fla.
Keith Thorman, Coral Gables, Fla.
John C. Smith, Minneapolis 16, Minn.
E. A. Buzzelli, Hibbing, Minn.
Ewan Campbell, Berkeley 7, Calif.
Bill Mills, Los Angeles 7, Calif.
M. M. Barber, Mathis, Tex.
R. B. Clark, Santa Ana, Calif.
F. A. English, Coulee Dam, Wash.
Ed Redderbush, Salem, Ore.
B. Cohen, Brooklyn, N. Y.
T. M. Dungan, Jr., Staten Is. 10, N. Y.
Howard Larbon, Port Allegany, Pa.
B. Wallis, Athens, Tenn.
L. Tarski, Keene, N. H.
T. K. Carson, Los Alamos, N. M.
G. Thompson, Riviera Beach, Fla.
Mike Trujillo, Pueblo, Colo.
Clint Smith, Tarzana, Calif.
Ed Lampe, Milwaukee, Wisc.
Jack Preston, Elizabeth 3, N. J.
Victor Dallac, Belmont, Mass.
S. A. Baum, Roselle, N. J.
E. Wenck, Saskatoon, Sask.
R. Cantara, Quebec, Quebec
R. L. Knight, Sandston, Va.
B. Hudon, Charlevoix, Quebec
D. Castonguay, Dorion, Quebec
Romeo Dastie, Montreal N., Quebec
M. A. Shutt, Beach City, Ohio
H. Weisman, Chicago 16, Ill.
C. Helkin, Portland, Ore.
J. Barlin, Jr., Cincinnati 11, Ohio
K. C. Hewlitt, Miami, Fla.
D. J. Avery, Amsterdam, N. Y.
R. E. Buchanan, Shelbyville, Ind.
R. Richardson, Springfield, Ohio
J. B. Fox, Jr., Henderson, N. C.
D. M. Buehre, Adrian, Mich.
N. Baker, Central City, Ky.

Donald Poe, Cumberland, Ky.
C. D. Weatherbee, Philadelphia, Pa.
E. Sorsby, Houston, Tex.
J. Bryant, Searcy, Ark.
Leo J. Cutter, Winamac, Ind.
Thomas Schuon, Ann Arbor, Mich.
Virgil Jones, Viroqua, Wisc.
Ray Hart, Byron, N. Y.
R. G. Parkes, Pembroke, Mass.
Carl Moneson, Watertown, N. Y.
Frank Perko, Palos Hts., Ill.
F. P. Salamone, Needham 92, Mass.
R. Courschesne, Victoriaville, Quebec
C. De Bouf, Jr., Lyons, N. Y.
E. H. Smith, Miami, Fla.
N. V. Holmes, Renton, Wash.
W. Luh, Monticello, Ind.
W. Campbell, Perrysburg, N. Y.
R. E. Bossard, Cleveland 11, Ohio
Robt. Hanagan, Binghamton, N. Y.
Edward Ramsey, Augusta, Ga.
C. Nichols, Birmingham, Ala.
J. Mauldin, Atlanta, Ga.
Ed Gormez, Fairlawn, N. J.
Steve Bermiks, Malton, Ont.
P. Nicholas, Muskogee, Okla.
Clyde Crawley, Cherryville, N. C.
G. Cargrave, Monterey, Calif.
P. Berry, Ashville, Ohio
R. B. Flint, Tucson, Ariz.
E. Urwiller, Scottsbluff, Nebr.
G. R. Brook, Houston, Tex.
Geo. Elin, Dallas, Tex.
Jerry Johnson, Grants Pass, Ore.
James Andrew, Graham, N. C.
Donald Canary, Sacramento, Calif.
C. Pohle, Aurora, Ind.
J. O'Donnell, Phila., Pa.
D. Oberlin, Akron, Ohio
J. Frieberger, New London, Wisc.
John K. Hill, Berea, Ohio
A. F. Hundt, Milwaukee 7, Wisc.
And 700 Coleman picnic coolers were awarded as 11th prizes.

Fix It

continued from page 80

glide parts or similar spacers. Place a Powerglide stator bushing under the head of the bolt and slip the bolt through the opening in the idler arm.

Now slip the new bushing over the threads of the bolt projecting through the arm and back it up with a Powerglide rear pump gear. Install the nut on the bolt and force the bushing into place on the arm by tightening the nut.

—DON HENCSIK
Holz Motors, Inc.
Hales Corners, Wis.

Gets Steering Seals Out

A fast method of removing the four-piece seals from the power-steering cylinder on all Fords is to blow them out with an air hose. Air pressure will break the fluid film behind the seals and washers and they can then be taken out.

On 1958 and later models which have a small shaft, the one remaining seal can be pried out.

—WAYNE GOODMAN
McDonald-Ate Motor Co.
Wellington, Kan.

Cures Push-Button Trouble

If there is no starting response on a Mercury with push-button drive when the N-S button is pushed, first check out the battery, cables, vacuum switch and solenoid. Then remove the push-button cover and the N-S button.

Next push in on the arm located behind the button. This can best be done with a thin-bladed tool such as a small screwdriver. Usually, the starter will operate, indicating the trouble to be a worn push-button assembly.

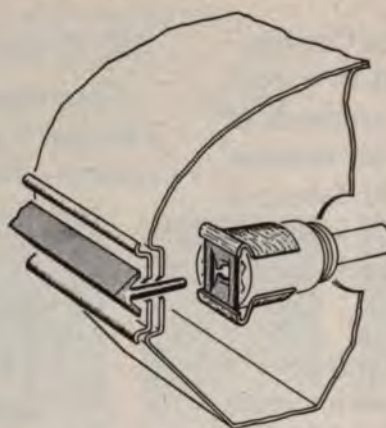
When a new assembly is not available, extend the travel of the N-S button by drilling a small hole in the center of the button's rear edge so that a small pin can be fitted tightly in the hole. The pin must contact the arm edge and the hole should be drilled carefully to achieve this. The pin length should add about $\frac{1}{16}$ in. to the effective push of the button.

—BEN L. DAVIS
Davis Automotive
Long Beach, N.Y.

BODY TIPS

MOTOR will pay you \$10 for each usable timesaving short cut from the body man

Attaches Molding Clips



Retaining clip is taped to end of socket, then installed by inserting it through panel hole

The front molding on a 1960 Oldsmobile hood is secured by retaining clips which are attached from inside the panel. It is difficult to attach the retaining clips, which must be inserted through 1 in. holes in an inner panel, several inches away from the outer panel.

To make the installation quickly and easily, first tape the retaining clip to the end of a socket. The tape should be wrapped around the socket, and overlap the retaining clip only about $\frac{1}{8}$ in. Then, with a long extension attached to the socket, the retain-

ing clip can be inserted through the hole in the panel and installed without difficulty.

—LES LOCKLIN
Locklin's Body Shop
Gouverneur, N.Y.

Scraper Smooths Lead

I use a bearing scraper, such as the old-timers used, for smoothing out lead solder around headlight and taillight sections, or in other locations hard to reach with a grinder.

When the body solder is applied, smooth it out as much as possible with the paddle to save scraping time. Then, with the bearing scraper, finish the job to the proper contour. This method does a faster, better job in these difficult locations.

—RICHARD E. SAMUELSON
Barnhart's Ford Garage
New Carlisle, Ind.

Aids Bumper Installation

To save extra work when installing bumper rails, cut two pieces from a discarded inner tube and slip one piece over each end of the bumper. This is much faster than taping the ends of the bumper and protects both the bumper and paint from scratches.

—JULIUS F. BROWN
Belk and Brown Body and Paint Shop
Rock Hill, S.C.

How Would YOU Fix It?

A chance to test your skill as a troubleshooter

► The customer, who owned a late-model Chevrolet, complained of a shifting problem with his Powerglide. At light throttle between 15 and 17 mph, the transmission seemed to be alternately shifting up and down at a very rapid rate. The shifts were also somewhat rough. This looked like a cinch to correct and the repair-

man checked immediately for a disconnected or defective modulator hose.

However, he found both the line and connections to be in good condition. What would you have looked for next in running down the cause of the trouble? Check your diagnosis with the answer on page 146.

...the new
McQUAY-NORRIS

MI-1000 ENGINE BEARING

EXTRA

- ✓ Durability
- ✓ Conformability
- ✓ Imbedability

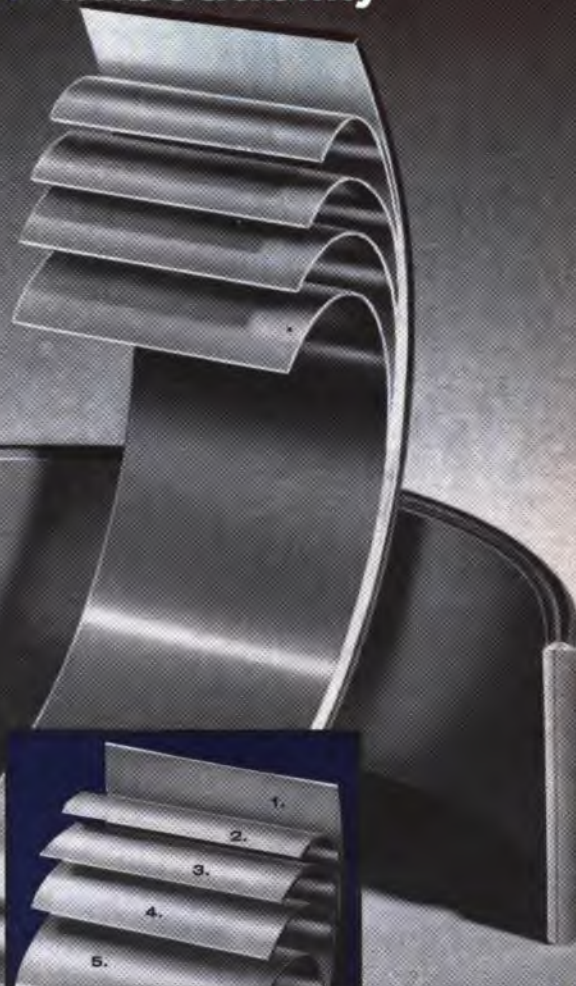


Blue Box LINE
Anonymous with quality

The **MI-1000** engine bearing has an "extra thin" lining only .001 of an inch thick, electrolytic-lyed on a hard and durable sintered copper-lead. The **MI-1000** has the fine anti-friction of babbitt plus the terrific strength of copper—so it is easy on the shaft, yet won't pound under the most severe service.

Combination of the **MI-1000** plus McQuay-Heavy Duty, Chrome Control, Leak-Proof Ring set, not only keeps the job running but also cuts gas and oil costs.

McQuay-Norris Wholesaler supply you with MI-1000 engine bearing!



the new MI-1000 ENGINE BEARING

1. Precision Steel Back
2. Sintered Copper-lead Lining
3. Barrier Plate
4. One thousandth of an inch Babbitt Overlay
5. Pure Tin Flash

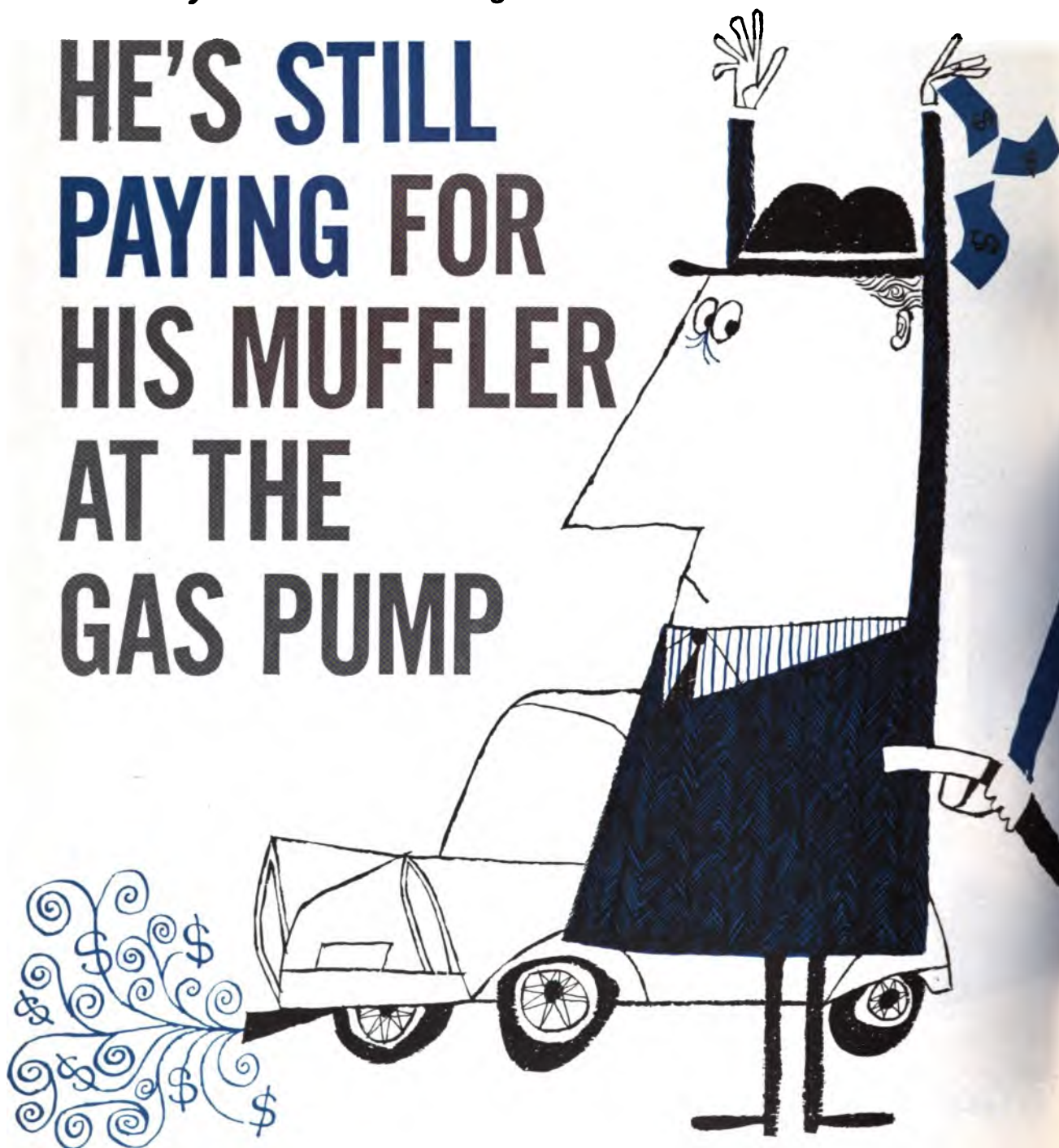
McQUAY-NORRIS

McQUAY-NORRIS
MANUFACTURING CO.
ST. LOUIS • TORONTO

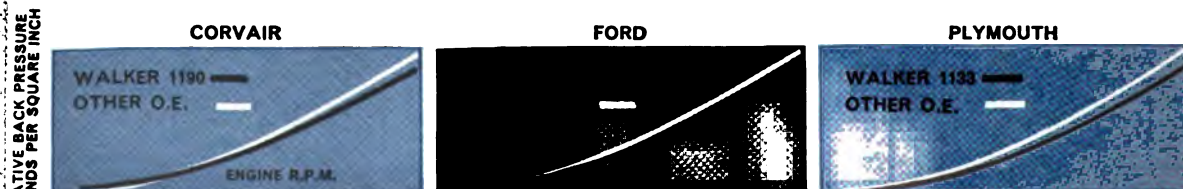


what do you mean—"Just as good as Walker?"

HE'S STILL PAYING FOR HIS MUFFLER AT THE GAS PUMP



HERE'S PROOF THAT WALKER "PRECISION TUNED" SILENCERS NEVER DESTROY ENGINE POWER



The above charts show actual on-the-car, over-the-road comparative back pressure readings for Original Equipment and Walker "Precision Tuned" Silencers at varying engine speeds.

Walker "precision tuned" silencers never steal gasoline...or rob engines of full built-in power

Being "just as good as Walker" is quite a task for anyone.

Take *back pressure*, for instance. Excessive back pressure is a "pick-pocket." An improperly designed muffler that does not meet the exact requirements of the engine on which it is installed can create a "back pressure drag" that results in the loss of up to 45 horsepower . . . reduced acceleration time as much as 60% . . . sluggish performance . . . increased gas consumption up to one gallon in ten.

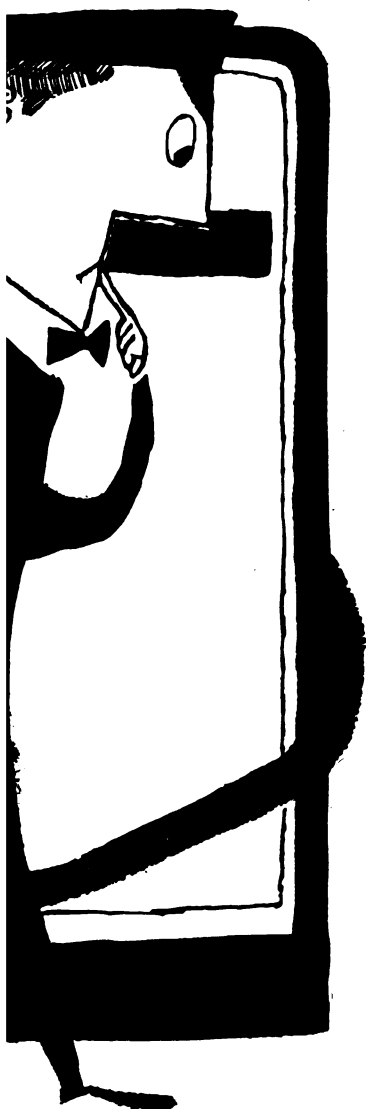
In many cases the installation cost of an ordinary "just as good" muffler is only the "down payment." The unsuspecting car owner keeps on having his "pockets picked" every time he stops at the gas pump.

But not with a "genuine" Walker "Precision Tuned" Silencer. Walker Silencers never steal gasoline or rob engines of built-in power because *CORRECT BACK PRESSURE* is the starting point in the basic design of every Walker "Precision Tuned" Silencer. It never exceeds the back pressure permitted by car factory engineers for the particular engine on which it is installed.

It's not easy to design a muffler that properly quiets an engine without power loss. It takes research . . . it takes know-how . . . it takes the actual experience that comes from creating . . . designing and producing exhaust systems as original equipment for most of America's finest automobiles . . . from "compacts" to "luxuries." Exhaust *performance* *proved* in the laboratory . . . on the test tracks . . . and, finally, over the road under actual driving conditions by our own exclusive Average Driver Test Fleet—the Million Mile Motorcade.

Yes . . . to be "just as good as Walker" is a fine ambition . . . and we don't blame others for trying to achieve it. But somehow . . . few ever do.

Don't be satisfied with a muffler that is only "just as good as Walker"—but really isn't. Install the "original" . . . a Walker "Precision Tuned" Silencer . . . that keeps engines at *peak* performance . . . always . . . that saves money at the gas pump . . . that is engineered and rust protected to last as long as most average drivers own their cars.



WALKER "PRECISION TUNED" SILENCERS

America's most PERFORMANCE PROVED mufflers

LAST LONGER . . . RUN QUIETER . . . GIVE ENGINES NEW PERFORMANCE AND GAS ECONOMY

WALKER MARKETING CORPORATION, RACINE, WISCONSIN



News for Jobbers

IASI Show Space Bids Set Mark

At the last count, 450 applications for space had been received for the International Automotive Service Industries Show, to be held at Chicago Feb. 28 to March 3. This compares with 431 applications at the comparable date last year for the Los Angeles show. Drawings for exhibitor position space were held Sept. 1. Space was to be assigned at a meeting at Chicago Oct. 4-5.

Mel Turner, Chicago garage owner and speaker of prominence, has been put in charge of the Speakers Bureau to promote the show.

A number of speakers already have been recruited, including the three state wholesalers' association secretaries nearest Chicago. These are Harry L. Belmer of Illinois, Maury J. Mayer, Michigan, R. C. Salisbury, Wisconsin, and James A. Heuser, Iowa. Speakers will be provided with a presentation which includes 37 color slides.

The show, sponsored jointly by the Motor and Equipment Manufacturers Assn. and the Automotive Service Industry Assn., will be held at Navy Pier.

Extra Day Is Voted For Pacific Show

Instead of four days as in the past, the 1962 Pacific Automotive Show, to be held at Portland, Ore.,

will be held five days. It will begin March 21 and close on March 25.

The decision to hold the show over an extra day was made because garages and service stations operate six days a week in the Pacific Northwest and it was thought that attendance would be helped by keeping the show open on Sunday.

Management conferences will be held the mornings of March 21, 22 and 23.

Salesman Training Program Offered

What is said to be the first undertaking of its kind, a training program for distributors' salesmen is being offered by the AC Spark Plug Div. of General Motors. It is called the ACHIEVER Sales Development program. It will show distributor salesmen how they can stimulate dealer sales efforts.

The program consists of 12 color and sound films sufficient for six meetings.

Opposes Premiums

The National Congress of Petroleum Retailers has commended the Automotive Service Industry Assn. for the stand it has taken in opposing the use of premiums by manufacturers in the automotive aftermarket. The resolution urges manufacturers to return "to basic product training and selling at fair, established and competitive prices."

Jobber Profits Fell in 1960

Automotive wholesalers made a net profit of 2.94 per cent of sales in 1960, according to the latest edition of the Automotive Service Industry Assn. publication "Financial Operation and Performance Analysis for Automotive Wholesalers." This figure, which represents net before income taxes, compares with 3.68 per cent earned in 1959. The drop in earnings is ascribed by ASIA to rising personnel costs.

Stock turnover was 3.86 in 1960 compared with 3.73 the year previous. Mufflers and pipes again were the leading line handled by wholesalers. Ignition parts, spark plugs, motor and chassis parts followed in that order.

Honored by ASIA

For "exemplary and enduring service" to the automotive service industry, Belden Manufacturing Co. has received the Distinguished Service Award of the Automotive Service Industry Assn.

Plant in Production

The new piston ring foundry of the Perfect Circle Corp. at Rushville, Ind., has begun production. Of the plant's 90,000 sq. ft. of floor space, 80,000 are devoted to manufacturing.

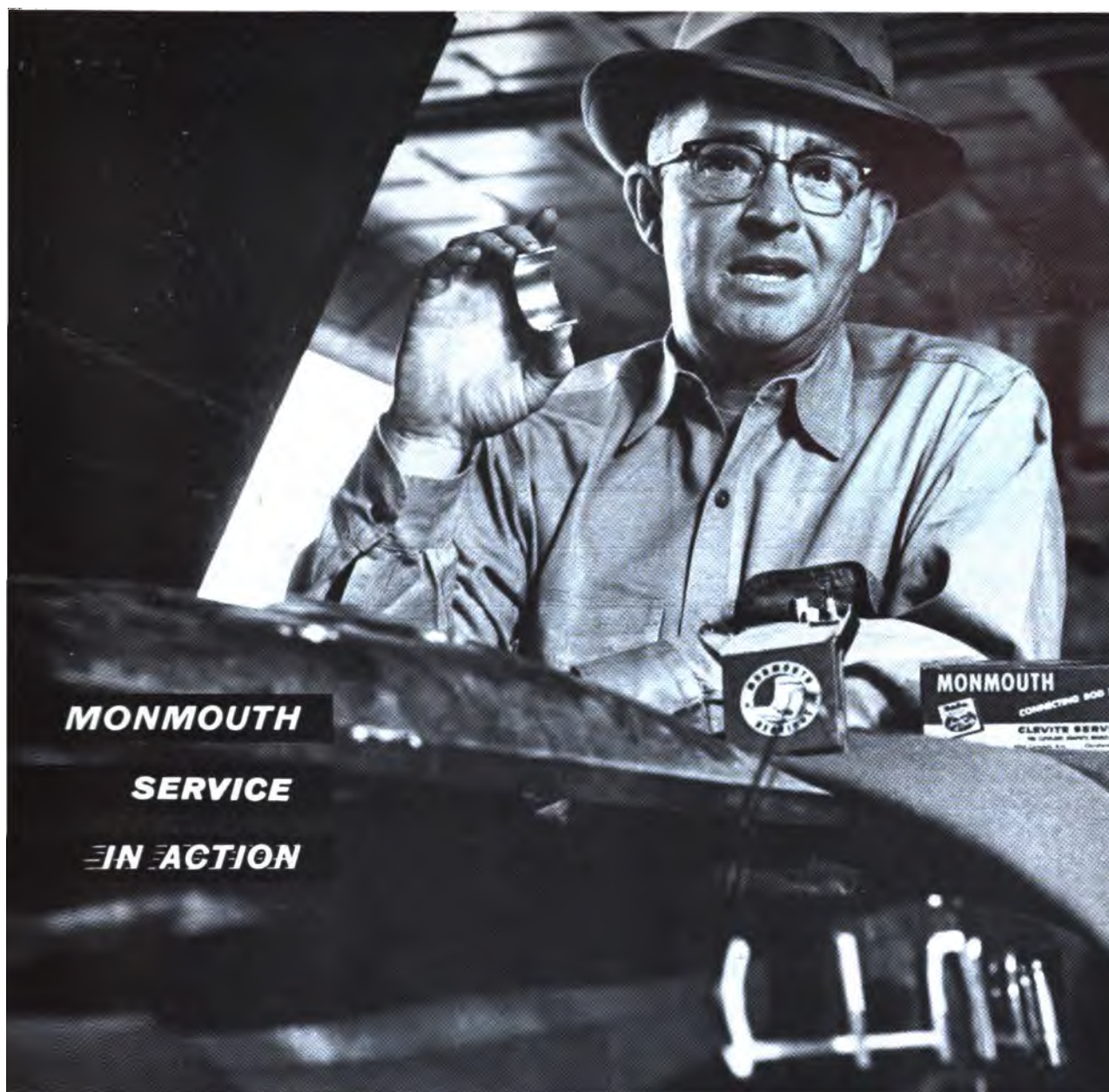
Buys Molding Firm

Rubbermaid Inc. has bought Fusion, Inc., Statesville, N. C., a firm using a process of molding powdered polyethylene, known as fusion molding. Robert O. Ebert will manage the newly acquired firm.

Builds New Plant

An early start is planned on a new casting and machining plant near Muskegon, Mich., by the

[CONTINUED ON PAGE 90]

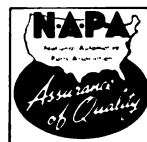


"Monmouth really concentrates on service."

... that's why I depend on Monmouth. I can get any bearing I want, as fast as I need it, just by calling my NAPA jobber. And I know Monmouth stands behind my jobber in making a product that's tops in quality. You can't beat that combination of quality and service. It makes my business a lot simpler and more profitable."

says Flake Wells, Jr., Owner
Wells Garage
El Paso, Texas

If you want performance that pays off, use Monmouth Bearings on all your engine rebuilds. For instant service, call on your NAPA jobber. He can give you complete Monmouth service on all your engine bearing requirements.



MONMOUTH Engine Bearings

CLEVITE SERVICE: Cleveland Graphite Bronze • Division of Clevite Corporation • Cleveland 3, Ohio



News for Jobbers

continued from page 88

Sealed Power Corp. With 50,000 sq. ft. of floor space, the new building will provide facilities for cast and rough-machine cylinder sleeves. With machinery, it will cost \$1,500,000.

Booster Club Charted

Booster Club No. 54, at Sioux Falls, S. D., the first in that state, has been chartered by the Executive Council of A. B. C. International. The full name will be Siouxland Automotive Booster Club No. 54. Clayton S. Peterson is president.

Buys Lab Site

Federal-Mogul-Bower Bearings, Inc., has acquired a site for a laboratory in the new Greater Ann Arbor (Mich.) Research Park. The new structure, the first in the park, will provide 23,000 sq. ft. on a six-acre plot.

Changes Division Name

Because of its wider variety of products, the name of the Eaton

Manufacturing Co.'s Pump Div. has been changed to the Marshall Div. The division, located at Marshall, Mich., now makes a fan drive and a limited-slip differential, as well as hydraulic pumps.

Buys Hose Unit

The automotive brake hose section of Flexonics Corp., Memphis, has been bought by Eis Automotive Corp. Equipment of the newly acquired unit has been installed in the Eis Middletown, Conn., plant.

Builds Canadian Plant

A plant now under construction at Toronto, Canada, has been bought by C. E. Niehoff and Co. of Canada, Ltd. It will be used for general offices and also for manufacturing.

Present Canadian warehouses will be maintained.

Manufacturers' Personnel

CHARLES C. GATES, Jr., to president, STAN JOHNSON to director of

THE WHOLE STEERING AND SUSPENSION BUSINESS...in a nutshell!

7 out of 10 cars on the road need under-car work. Be ready to solve every steering and suspension problem that comes your way by carrying the complete line of quality-engineered MOOG parts.

These specially-designed parts get to the heart of the trouble and provide a permanent-type cure... not just a patch job. That's why MOOG is the choice of the wheel alignment specialist!

Over 40 years of specialized experience and customer satisfaction let you install MOOG parts with complete confidence... and protect you against costly comebacks! Contact your MOOG jobber or distributor today. Moog Industries, Inc., St. Louis 33, Mo.

MOOG MEANS MORE UNDER-CAR BUSINESS!

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If you are going to move it is necessary that the proper notification be made, at the earliest possible moment, so that you may continue to receive your copies of MOTOR Magazine without interruption.

Such notification should be made to MOTOR Magazine by letter, postcard, or post office form 225, giving the old address, as well as the new, with postal zone number if any. You should also notify your local post office on postal form 22 of your change of address. Both postal forms are obtainable at any post office.

Since considerable time is required to process a change of address you are urged to advise the MOTOR Magazine Subscription Department as soon as you know your new address, preferably five weeks in advance.

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Subscription Dept.
250 West 55th St.
New York 19, N. Y.

Patented **ADJUSTABLE** Ball-Joints • "Gusher-Bearing" Ball-Joints • Steering Stabilizers (Ball-Bearing Idler Arm Kits) • "Gusher-Bearing" Tie Rod Ends • "Fluid-on-the-Frame" Shock Absorbers • Car-Buoy Coil Type Overload Springs • Hollow Rubber Helper Springs • Power Steering Hose Assemblies • Power Steering Seal Kits • U-Bolts • Center Bolts • Leaf Springs and Main Leaves • Passenger Helper

and ROBERT E. HOLWELL to manager of dealer tire sales, Biber Co.

CE to Autolite product ising manager, Autolite Motor Co.

DALE BLACK to advertiser, Merit Mufflers.

BRYAN to general manager, Speedostat Div., Perfect Corp.

BRENNAN to vice president-Mogul-Bower Bearings and general manager, Inland Div.

HERMAN O. THOMAS to manager of sales administration and WILLIAM K. SCHAEFER to sales manager, Briggs Replacement, the Gabriel Co.

EDWARD W. ROGERS to new brand manager of Dowgard automotive products line, and W. L. NELSON to manager, consumer products sales, the Dow Chemical Co.

ROBERT SCHUSTER to advertising and sales promotion manager, Owatonna Tool Co.

ARTHUR S. BOEHM to newly created position of sales manager of

Industrial-Automotive Div., Black and Decker Manufacturing Co.

WALTER MARLOWE to vice president and general manager, Allied Automotive Parts Co.

DONALD M. BROWN to product manager, Electrical Products Group, the Electric Autolite Co.

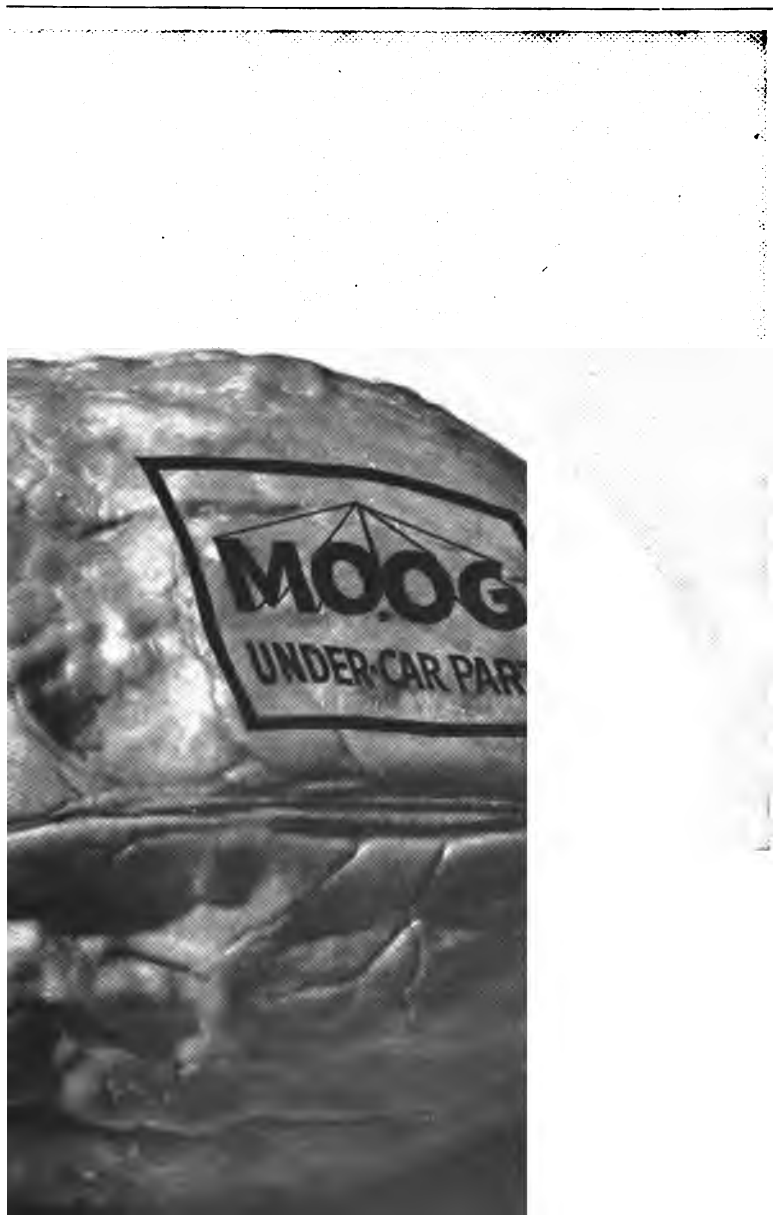
JOHN L. TIMONEY to national new products sales manager, Jack P. Hennessy Co. and the Three Star Sales Corp.

JOHN L. FORT to sales manager of Warehouse Distributor Div., Puro-lator Products Inc.

STANLEY T. RICHARDS to director of public relations, AC Spark Plug Div.

ROBERT J. THOMPSON to field sales promotion, Guaranteed Parts Co.

RICHARD J. KLEIN to new post of director of membership services, Automotive Electric Assn.



rs • Multi-Leaf Overload Springs for Light and Heavy Trucks • Build-Up for Heavy Trucks • Shackles (Tryon & Silent U, Harris & Silent-Bloc) • Coil Springs • Upper-Inner and Lower-Inner Shaft Kits • Upper and Arms • Intermediate Steering Arm Kits • "Sta-Tite" Pivot Shaft Kit • Idler Idler Arm Support Kits • Coil Spring Spacers • Coil Spring Compensators

Things to Come

DEALER CONVENTIONS

Oct. 22-24 New York, Kiamesha Lake
Oct. 22-24 New Jersey, Atlantic City
Oct. 29-31 Florida, Ft. Lauderdale
Dec. 4 Utah, Salt Lake City
Dec. 4-5 Minnesota, Minneapolis
Dec. 8-9 Montana, Billings
Feb. 3-7 National Automobile Dealers Assn., Atlantic City

PARTS AND EQUIPMENT SHOWS

Oct. 23-26 Fleet Maintenance Exposition, New York
Dec. 9-11 Annual Auto Trim Show, Los Angeles
Jan. 29- Automotive Accessories
Feb. 1 Manufacturers of America Exposition, Chicago
Feb. 28- International Automotive Service
Mar. 3 Industries Show, Chicago
Mar. 21-25 Pacific Automotive Show, Portland, Ore.
Apr. 11-13 Canadian Automotive Service Show, Toronto
Apr. 12-14 National Truck, Trailer and Equipment Show, Los Angeles

GENERAL

Oct. 12-13 Western Engine Rebuilders Assn. Convention, Palm Springs, Cal.
Oct. 25-27 Assn. of American Battery Manufacturers Convention, Chicago
Oct. 29- National Lubricating Grease
Nov. 1 Institute Meeting, Houston, Tex.
Oct. 30- Automotive Warehouse Distributors Assn. Convention, Kansas City, Mo.
Nov. 8-10 Automotive Parts Rebuilders Assn. Convention, Los Angeles
Dec. 7-14 Automotive Electric Assn. Annual Meeting, Chicago
Feb. 26-27 Automotive Service Industry Assn. Convention, Chicago
May 20-23 Automotive Engine Rebuilders Assn. Convention, Detroit
June 29- IGO-California, San Diego
July 1

Quick Service Data on 1961-62 Passenger Cars

TIRES..BATTERIES..CAPACITIES—COOLING SYSTEM

MAKE AND MODEL	Hood Release Location	CAPACITIES										TIRES		BAT- TERY	THER- MOSTAT	COOLING		RADIATOR				FAN- G Wate	
		Oil (Qt.) Refill	Water (Qt.) With Heater	Trans.			Automatic (Qt.) and Dipstick Location	Overdrive (Pt.)	Axle (Pt.)	Gas (Gal.)	Size	Front Recommended Pressure	Rear Voltage	Terminal Grounded	Starts Opening At Degrees F.	Type	Radiator Cap Relief Pressure	Radiator	Cyl. Block	Hoses		Fan-G Wate	
				Conventional (Pt.)																Lower	Upper		
'62 Buick Special, 4000	G	4	12	2 1/2	6	E	No	2	16	6.50x13	22-22	12 N	168	CH	15		R	L	1 1/2	1 1/2	1	35	
'62 Buick Special, 4100 and 4300	G	4	13 1/2	2 1/2	6	E	No	2	16	6.50x13	22-22	12 N	168	CH	15		R	L	1 1/2	1 1/2	1	35	
'62 Buick LeSabre	G	4	13 1/2	2 1/2	6	E	No	4 1/2	16	7.60x15	24-24	12 N	170	CH	15		R	L	1 1/2	1 1/2	1	35	
'62 Buick Invicta, Electra	G	4	18 1/2	12	12	E	No	4 1/2	16	7.60x15	24-24	12 N	170	CH	15		R	L	1 1/2	1 1/2	1	35	
'61 Cadillac 60, 62	G	4	19 1/2	9	9	E	No	5	26	8.00x15	26-26	12 N	175	CH	13 1/2-16 1/2	R	L	L	1 1/2	1 1/2	1	37-40	
'61 Cadillac 75	G	4	20 1/2	9	9	E	No	5	26	8.20x15	26-26	12 N	175	CH	13 1/2-16 1/2	R	L	L	1 1/2	1 1/2	1	37-40	
'61 Checker Superba	G	5	13	2 1/2	9 1/2	E	No	3	22	6.70x15	24-24	12 N	167B	CH	4		L	R	1 1/2	1 1/2	1	38	
'62 Chevrolet Corvair	RKL	4	No	1 1/2	3	E	No	3 1/2	14	6.50x13	15-26	12 N	205	AA	No	No	No	No	No	No	No	No	
'62 Chevy II 4 and 6	G	4	16	2	1 1/2	RRR	No	4	16	6.00x13	22-22	12 N	180	CH	13		L	L	1 1/2	1 1/2	1	37-44	
'62 Chevrolet 6	G	5	18	2	4 1/2	RRR	No	4	20	7.50x14	24-24	12 N	170	CH	13		L	L	1 1/2	1 1/2	1	40	
'62 Chevrolet V-8 327 cu. in.	G	5	20	2	4 1/2	RRR	No	4	20	7.50x14	24-24	12 N	170	CH	13		L	L	1 1/2	1 1/2	1	40	
'62 Chevrolet V-8 409 cu. in.	G	5	20	2	4 1/2	RRR	No	4	20	7.50x14	24-24	12 N	170	CH	13		L	L	1 1/2	1 1/2	1	40	
'62 Chevrolet Corvette	D	5	16 1/2	2	4 1/2	E	No	4	16 1/2	6.70x15	24-24	12 N	170	BY	13		R	L	1 1/2	1 1/2	1	40	
'62 Chevrolet V-8 283 cu. in.	G	4	18 1/2	2	4 1/2	E	No	4	20	7 1/2x14	24-24	12 N	170	CH	13		R	L	1 1/2	1 1/2	1	40	
'62 Chrysler Newport, 300	D	5	17	4 1/2	9	E	No	4	23 1/2	8.00x14	24-22	12 N	180	CH	14		L	L	1 1/2	1 1/2	1	36	
'62 Chrysler New Yorker	D	5	17	No	9	E	No	4	23 1/2	8.00x14	22-22	12 N	180	CH	14		R	L	1 1/2	1 1/2	1	36	
'62 Chrysler 300H	D	5	17	No	9	E	No	4	23 1/2	7.60x15	22-22	12 N	180	CH	14		R	L	1 1/2	1 1/2	1	36	
'61 Comet	E	3 1/2	9 1/2	2 1/2	6 1/2	E	No	2 1/2	14	6.00x13	24-24	12 N	175-180	PP	14		R	R	1 1/2	1 1/2	1	36	
'62 Dodge Lancer	HB-E	4	12	5	7	E	No	2	14	6.50x13	24-24	12 N	180	CH	14		L	R	1 1/2	1 1/2	1	36	
'62 Dodge Dart 6	HB-E	4	13	4 1/2	7	E	No	3 1/2	20	6.50x14	24-24	12 N	180	CH	14		L	R	1 1/2	1 1/2	1	36	
'62 Dodge Dart V-8	HB-E	4	21	4 1/2	9	E	No	3 1/2	20	7.00x14	22-22	12 N	180	CH	14		L	L	1 1/2	1 1/2	1	36	
'62 Dodge Polara	HB-E	4	17	4 1/2	9	E	No	4	20	7.00x14	24-22	12 N	180	CH	14		L	L	1 1/2	1 1/2	1	36	
'61 Ford Falcon	G	3 1/2	9 1/2	2 1/2	6 1/2	E	No	2 1/2	14	6.00x13	24-24	12 N	175-180	PP	14		R	R	1 1/2	1 1/2	1	36	
'61 Ford 6	G	4	16	3	9	E	No	3 1/2	20	7.50x14	24-24	12 N	175-180	PP	12-15		R	L	1 1/2	1 1/2	1	36	
'61 Ford V-8 292 cu. in.	G	5	20	3	9	E	No	3 1/2	20	7.50x14	24-24	12 N	175-180	PP	12-15		R	L	1 1/2	1 1/2	1	36	
'61 Ford V-8 352 cu. in.	G	5	20	3	10	E	No	4	20	7.50x14	24-24	12 N	175-180	PP	12-15		R	L	1 1/2	1 1/2	1	36	
'61 Ford V-8 390 cu. in.	G	5	20	3	10	E	No	4	20	7.50x14	24-24	12 N	175-180	PP	12-15		R	L	1 1/2	1 1/2	1	36	
'62 Imperial	D	5	17	No	10 1/2	E	No	4	23	8.20x15	24-24	12 N	180	CH	14		R	L	1 1/2	1 1/2	1	36	
'61 Lincoln Continental	D	5	25	No	23	E	No	4 1/2	21	9.00x14	24-24	12 N	178 1/2	CH	12-15		L	L	1 1/2	1 1/2	1	36	
'61 Mercury 6	D	4	16	3	10	E	No	3 1/2	20	7.50x14	24-24	12 N	178	CH	12-15		L	L	1 1/2	1 1/2	1	36	
'61 Mercury V-8 292 cu. in.	D	5	20	3	11 1/2	E	No	3 1/2	20	7.50x14	24-24	12 N	178	CH	12-15		L	L	1 1/2	1 1/2	1	36	
'61 Mercury V-8 352, 390 cu. in.	G	5	20	3 1/2	10	E	No	4 1/2	20	7.50x14	24-24	12 N	178	PP	12-15		L	L	1 1/2	1 1/2	1	36	
'62 Oldsmobile F85	G	4	12 1/2	2 1/2	8	E	No	2 1/2	16	6.50x13	22-22	12 N	170	BY	15		R	R	1 1/2	1 1/2	1	36	
'62 Oldsmobile	G	4	20 1/2	2 1/2	11	E	No	5 1/2	25 1/2	8.00x11	22-22	12 N	170	CH	15		L	L	1 1/2	1 1/2	1	36	
'62 Plymouth Valiant	G	4	12	5	7	E	No	2	14	6.50x13	24-24	12 N	180	CH	14		L	L	1 1/2	1 1/2	1	36	
'62 Plymouth 6	G	4	13	5	7	E	No	2	14	6.50x14	24-24	12 N	180	CH	14		L	R	1 1/2	1 1/2	1	36	
'62 Plymouth V-8 318 cu. in.	G	4	21	4 1/2	9	E	No	3 1/2	20	7.00x14	24-26	12 N	180	CH	14		L	R	1 1/2	1 1/2	1	36	
'62 Plymouth V-8 361 and 383 cu. in.	G	4	17	4 1/2	9	E	No	4	20	7.00x14	24-22	12 N	180	CH	14		L	R	1 1/2	1 1/2	1	36	
'62 Pontiac Tempest	G	4	12 1/2	3	4	E	No	3 1/2	16	6.00x15	22-22	12 N	180	CH	14-17		L	R	1 1/2	1 1/2	1	36	
'62 Pontiac	G	4	19 1/2	1 1/2	6	E	No	5 1/2	25 1/2	8.00x14	22-22	12 N	180	CH	14-17		C	L	R	1 1/2	1 1/2	1	36
'61 Rambler American	G	4	12	1 1/2	6 1/2	E	No	1 1/2	3	20	6.00x15	24-24	12 N	180	CH	13		L	L	1 1/2	1 1/2	1	40
'61 Rambler Classic 6	G	4	10 1/2	1 1/2	10	E	No	2 1/2	3	20	6.50x15	24-24	12 N	180	CH	13		L	L	1 1/2	1 1/2	1	40
'61 Rambler Classic 8	G	4	20	2 1/2	10	E	No	3 1/2	4	20	7.50x14	24-24	12 N	180	CH	13		L	L	1 1/2	1 1/2	1	38
'61 Rambler Ambassador V-8	G	4	19	4	11	E	No	4	4	20	7.50x14	22-20	12 N	180	CH	13		L	L	1 1/2	1 1/2	1	38
'62 Studebaker 6	D	5	12	2 1/2	9	E	No	3 1/2	3	18	6.00x15	24-20	12 N	170	CH	13		L	L	1 1/2	1 1/2	1	38-40
'62 Studebaker V-8	D	5	18	3 1/2	9	E	No	4	3 1/2	18	6.50x15	24-20	12 N	170	CH	13		R	L	1 1/2	1 1/2	1	38-40
'61 Thunderbird	G	5	20	No	10	E	No	4 1/2	20	8.00x14	24-24	12 N	175-180	CH	12-15		L	L	1 1/2	1 1/2	1	36	

a—Invicta figure given, Electra uses 8.00x15 tires
 [—Montclair figure given, Park Lane is 1 1/4 qt.
 g—88 and Super 88 figures given, 98 uses 8.50 x 14 tires
 B—OHV—opens at 177 deg.
 BY—By-pass
 C—Center
 CH—Choke
 D—Dashboard
 E—Engine compartment
 F—Under floor mat in driver's compartment
 G—Grille
 L—Left
 L&R—Left and right
 N—Negative
 NS—Not specified
 P—Positive
 PP—Poppet type
 R—Right
 RKL—Rear key lock
 FI—Front interval

RD—Rear Deck
 [—Station Wagons fully loaded 28
 [—6 cyl. models 7.00 x 14
 [—Convertible and Station Wagon size is 8.00x14
 [—Hawk hood release located behind middle of front bumper
 [—Rear tire pressure for Station Wagons 30
 [—Station Wagons, 8.00x14
 [—Station Wagons 26 lb. pressure all wheels
 [—Station Wagons 21 gal.
 [—8.20x15 WSW standard on Biarritz
 [—24 front, 24 rear on 8.20x15
 [—TorqueFlite capacity given. PowerFlite is 10 qt.
 [—22 on Station Wagons
 [—7.50x14 on 6 pass. Station Wagons
 [—8.00x14 on 9 pass. Station Wagons
 [—8.00x14 on 9 pass. Station Wagons
 [—Under floor mat on Hawk models
 HB-E—External-Finger Slot in Hood Brow
 [—26 1/2 on Series 4000-4100 station wagon rear tires

—Hawk and Lark Model 44 axle capacity 2 1/2 pt.
 Model 27 capacity is 2 1/2 pt.
 [—On Station Wagons, 21 lb. empty, 28 lb. fully
 [—Top section under bumper
 [—Right front of luggage compartment under p
 [—Lark V8 figure given. Hawk tire size is 6.70x15
 [—Add 1 qt. if equipped with filter
 [—Intake manifold thermostat figure given. Mod
 state open at 137-142 deg.
 [—Rear tire pressure for Station Wagons is 24
 load operation, 28
 [—Rear tire pressure for Station Wagons is 26
 [—Station Wagon 19 gal.
 [—3 speed transmission figure given, 4 speed is
 [—Air thermostat bellows
 [—Station Wagon 21 gal.
 [—Station Wagon 6.50 x 13

[MORE SPECIFICATIONS, P

MOTOR, Oct

THE QUALITY CONTROL EIS "E" SERIES HRC* WHEEL CYLINDER CUPS WITH EXPANDERS AND SPRINGS WORKS BETTER HERE ▶▶▶



The quality of EIS rubber hydraulic brake parts goes beyond men and milling machines. Every part is a quality proof produced by Electronic Instruments. We check every batch of rubber for exact viscosity, for rubber temperature and, finally, an operating temperature check every three minutes on every EIS molding press! This quality-control insures correct formulation and molding of HRC* rubber parts and is typical of EIS all-over one-roof manufacturing!

Such care in production shows up in EIS "E" Series HRC* Cups. That's why they provide a positive, longer-lasting seal in high heat conditions caused by smaller drums and faster braking. For extra insurance, EIS adds Expanders and Springs to the cups . . . just like the car manufacturers have done . . . to provide the correct pressure needed at the point of contact between cups and cylinder wall!

"E" Series CUPS with Expanders and Springs are built into all EIS Wheel Cylinders. They're included in Repair Kits instead of plain cups found in ordinary kits. Either way, they cost no more! Also available in shop-size Cabinet Assortments and in Standard Ten-Paks. Use them in all your brake work . . . they work better!



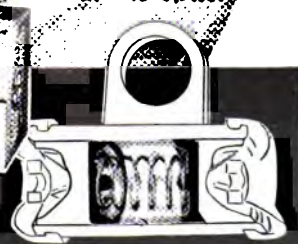
* HRC
HEAT-RESISTING-COMPOUND
Operates efficiently
at - 40° F., too!



MASTER CYLINDERS • MASTER CYLINDER KITS
WHEEL CYLINDERS • WHEEL CYLINDER KITS • HOSES
POWER BRAKE PARTS • BRAKE BLEEDERS • BRAKE CABLES
BRAKE CUPS • POWER BRAKE KITS • SWITCHES • TOOLS
POWER BRAKE TIGHTENERS • HOLD-DOWN PARTS • BRAKE FLUIDS
HYDRAULIC CLUTCH REPAIR KITS AND CYLINDERS
CYLINDERS AND KITS FOR IMPORTED CARS

write for Catalog

EIS AUTOMOTIVE CORP., Middletown, Conn.



Mechanical Data on 1961-62 Passenger Cars

TUNE-UP DATA..IGNITION..WHEEL ALIGNMENT

continued from page 92

MAKE AND MODEL	IGNITION								WHEEL ALIGNMENT			
	Spark Plug Gap	Breaker Gap	Cam Angle	Centr. Advance Start (RPM) (Crankshaft)	Centr. Advance (Max. Deg. @ RPM) (Crankshaft)	Vacuum Advance Starts (In. Mercury)	Vacuum Advance (Max. Deg. @ In. Mercury)	Timing		Caster Angle (Degrees)	Camber Angle (Degrees)	Toe-in (Inches)
								Points Open Degrees	Timing Mark			
'62 Buick Special	.033	.015	30+1	450-800	28@3700	6-8	17½@16	7.5	H	½Neg. ±½	0± ¾	¾ ¾
'62 Buick Le Sabre Invicta, Electra	.033	.015	30+1	550-900	22@3800	8-10	17½@18	12B	H	1 Neg. 1½	¾ ± ¾	¾ ¾
'62 Cadillac 60, 62, 75	.035	.016	30	400	7-9@2000	8-10	10½-12@15-20	5B	D			
'61 Checker Superba 6 L-Head	.029	.019	39	550	18@3350			4B	D	+2	+½ +1½	¾ ¾
'61 Checker Superba 6 OHV	.032	.019	39	500	33@2400	0-10	10@15	3½B	D	+2	+½ +1½	¾ ¾
'62 Chevrolet Corvair	.035	.019	32-34	400	32@3600	6	23@15½		P			¾ ¾
'62 Chevrolet 6	.035	.019	28-35	600	26@3500	6	22@15½	5B	F	0 ± 30°	+30 ± 30°	¾ ¾
'62 Chevrolet V-8 283 cu. in.	.035	.019	26-33	600	26@3750	8	15@15½	4-8	F	0 ± 30°	30° ± 30°	¾ ¾
'62 Chevrolet V-8 327 cu. in.	.035	.019	26-33	600	26@3750	8	15@15½	4-10B	D	0 ± 30°	30° ± 30°	¾ ¾
'62 Chevrolet V-8 409 cu. in.	.035	.019	26-33	700	24@4600			4-8B	D	0 ± 30°	30° ± 30°	¾ ¾
'62 Chevrolet Corvette	.035							10±-1B	D	2 ± 30°	0° ± 30°	¾ ¾
'62 Chevy II 4 and 6	.035	.019	31-34	600		6	23@12	4B 00				
'62 Chrysler Newport, 300	.035	.017	27-32	250-450	10.5-12.5@2150	4.5-8.0	11.5-14.5@16.5	10B	C	Δ	Δ	¾ ¾
'62 Chrysler New Yorker	.035	.017	27-32	250-450	10.5-12.5@2150	4.5-8.0	11.5-14.5@16.5	10B	C	+½ ± ½	Δ	¾ ¾
'62 Chrysler 300H	.035		34-40	325-475	9-11@2400	7.2-8.9	7.5-10.5@14.5	10B	C	Δ	Δ	¾ ¾
'61 Comet	.034	.025	35-38			0	27-29.5@5½	4B†	D	+1½	+¾ +1½	¾ ¾
'62 Dodge Lancer	.035	.017	40-45	325-475	12½-14½@2200	5-7½	9½-12½@12½	2½B	D	Δ	Δ	¾ ¾
'62 Dodge Dart 6	.035	.017	40-45	325-475	10½-12½@2300	4½-7½	5½-7½@13	2½B	D	Δ	Δ	¾ ¾
'62 Dodge Dart V-8	.035	.014	27-32	330-570	8-10@2300	8-10	12-5@18	10B	D	Δ	Δ	¾ ¾
'62 Dodge Polara	.035	.014	34-40	275-425	11-13@2050†	7½-9½†	9½-12½@16†	10B	D	Δ	Δ	¾ ¾
'61 Ford Falcon												
'62 Ford 6 223	.034	.025	35-38							0 ± 30°	0° 15' ± 1	¾ ¾
'62 Ford V-8 292 cu. in.	.034	.015	26-28½							0 ± 30°	0° 15' ± 1	¾ ¾
'62 Ford V-8 352, 390 cu. in.	.034	.015	26-28½							0 ± 30°	0° 15' ± 1	¾ ¾
'62 Imperial	.035	.014	27-32	0@310-400	8½-10½@2300	0@6-9	8.3-11.0@15	10B	C	+½ ± ½	Δ	¾ ¾
'61 Lincoln Continental	.034	.015	26-28½	700	30@4000	6	22@18	6B	D	0 -1½°	0 ± ¾°	¾ ¾
'61 Mercury 6	.034	.025	35-38	No	No	¾	26@6	4†	D	-½ +½	+½ +1	¾ ¾
'61 Mercury V-8 292 cu. in.	.034	.015	26-28½	1000‡	20.5-23.5@4000	7	19-25@20	3†	D	-½ +½	+½ +1	¾ ¾
'61 Mercury V-8 352, 390 cu. in.	.034	.015	26-28½	1000‡	23-26@4000§	5‡‡	19-25@17½	3B†	D	-½ +½	+½ +1	¾ ¾
'62 Oldsmobile F85	.030	.016	28-32	800	24@4200	5-7	25½@16	5B	D	-½ -1½	-½ +½	¾ ¾
'62 Oldsmobile	.030	.016	28-32	800	24-28@4000	7-9	26@17	5B	D	-½ +½	-½ +½	0 ¾
'62 Plymouth Valiant	.035	.020	40-45	325-475	12½-14½@2200	5-7	9½-12½@12½	2½B	C	Δ	Δ	¾ ¾
'62 Plymouth 6	.035	.017	40-45	325-475	10½-12½@2300	4½-7½	5½-7½@13	2½B	C	Δ	Δ	¾ ¾
'62 Plymouth V-8 318 cu. in.	.035	.017	27-32	330-570	8-10@2300	8-10	12-15@18	5B	C	Δ	Δ	¾ ¾
'62 Plymouth V-8 361 and 383 cu. in.	.035	.017	27-32	275-425	11-13@2050	7½-9½	9½-12½@16	10B	C	Δ	Δ	¾ ¾
'62 Pontiac Tempest	.035	.016	73-77	650	24-28@4250	6-8	20@13-15	6B	P	1° 40' ± 30°	0° 8' ± 30°	0 ¾
'62 Pontiac	.035	.016	30 ± 2	700¶	18-22@3600¶	6-8*	20@13-15*	6B	P	-1½ ± ½	+½ ± ½	0 ¾
'61 Rambler American	.035	.020	36-42	850	12-16@4000	4-6	9-13@11	3B	D	0 ± ½	-½ +½	¾ ¾
'61 Rambler American Custom	.033	.016	28-35	1000	22@4200	6	22@16½	8B 00	D	0 ± ½	-½ +½	¾ ¾
'61 Rambler Classic 6	.035	.016	28-35	1000	20-24@4200	5-7	22@16½	8B 00	D	0 ± ½	-½ +½	¾ ¾
'61 Rambler Classic V-8	.035	.014	28-32	600	34-38@3800	5½-7½	20@15	11	D	0 ± ½	-½ +½	¾ ¾
'61 Rambler Ambassador V-8	.035	.014	28-32	600	34-38@3800	5-7	20@15	11	D	0 ± ½	-½ +½	¾ ¾
'62 Studebaker 6	.033	.017	37-41	800	24@1800	8	14@13	2B	D	+½ -1½°	0 ± 10	¾ ¾
'62 Studebaker V-8	.033	.016	28-32	800	24@2250	8	16@13	4B	D	+½ -1½°	0 ± 10	¾ ¾
'61 Thunderbird	.034	.015	26-28½	550	21.5-24.5@4000	9	12-18@17	3B†	D	-½ +½	+½ +1	¾ ¾

B—Before top center
C—Chain case cover
D—Vibration damper
F—Flywheel
H—Harmonic Balancer
P—Pulley

Δ—Lincoln Continental steering axis inclination taken at 1/4 deg. camber; caster must agree within 1/2 deg. for right and left sides; camber must agree within 1/4 deg. for right and left sides.

*—Steering axis inclination specified at 0 deg. camber

±—At 1/4 deg. camber

††—At 0 deg. 50' camber

‡—Figures apply to cars with manual transmission. 390 cu. in. is 550.

§—390 cu. in. is 9

¶—390 cu. in. 21.5-24.5 @ 4000 centr. advance, 12-18 @ 17 vacuum advance

—Caster Manual steering -1/2 ± 1/2 deg.

Power steering +1/2 ± 1/2 deg.

Δ—Camber Left +1/2 ± 1/2 deg.

Right +1/2 ± 1/2 deg.

⊕—Camber Left +3/4 ± 1/4 deg. (Prefer +3/4)

Right +1/2 ± 1/4 deg. (Prefer +1/2)

*—Lark figure given. Hawk is -1 1/2 to -3 deg. Maximum variation between wheels should not exceed 1/2 deg. on Lark, 3/4 deg. on Hawk.

†—Figures given for cars with automatic transmissions. Different figures are used with manual transmission cars.

††—Camber +3/4 to -3/4 left

+1/2 to -3/4 right

*—670-1130 with auto. trans.

‡—16-20@4600 with auto. trans.

‡—361 cu. in. figure given

7.5 deg. on 383 cu. in.

⊕—Caster Manual steering -1/2 ± 1/2 deg.

Power steering -3/4 ± 1/2 deg.

‡—Figure given for Catalina. The Star Chief, Bonneville & Grand Prix figure is 650

00—Figure given for Chevy II 4.

Chevy II 6 figure is 8B

Δ—Figures given for engines with 8.6-to-1 compression ratio. Engines with higher compression ratios have different data.

▽—At 1 deg. camber

◆—+1/2 deg. caster and 0 deg. camber desired in toe-in preferred on V-8

◊—Driver's side 1/2 deg. more camber

†—With automatic transmission—10

Δ—Camber 1/2 deg. ± 1/4 deg. left

1/2 deg. ± 1/4 deg. right

99—Figure given is for manual trans. with reg. fuel. Manual trans. premium fuel is 12 1/2

B. Auto. trans. figures are 10 deg. B

regular, 14 deg. B premium

8B—8B for regular fuel, 11B for premium fuel

11—Timing manual trans.—TDC regular fuel

premium fuel. Timing auto. trans.—SB

regular fuel, 8B premium fuel

0—Figure given for Catalina. The figure for Star Chief, Bonneville and Grand Prix

20@2850

[MORE SPECIFICATIONS, PAGE 96]

Mechanical Data on 1961-62 Passenger Cars

ENGINE.. VALVES.. BRAKES.. EXHAUST

continued from page 94

MAKE AND MODEL	ENGINE				VALVES										EXHAUST		BRAKES			
	Firing Order	Idle Speed		Tappet Clearance		Stem to Guide Clearance		Seat Angle	Lift		Timing				Muffler Inlet (In.)	Tailpipe (In.)	Type	Drum Diameter	Shoe Clearance Adjustment	
		Standard Transmission	Automatic Transmission								Intake		Exhaust							
				Intake	Exhaust	Intake	Exhaust		Intake	Exhaust	Intake	Exhaust	Opens Degrees BTC	Closes Degrees ABC						Opens Degrees BBC	Closes Degrees ATC
'62 Buick Special 4000	165432 ^B	525	525	No	No	1-2.5	1-3 ^A	45	45	385	385	31	84	69	46	1 1/4	1 1/4	S	9 1/2	0.15
'62 Buick Special 4100 & 4300	18436572 ^B	525	525	No	No	1-2.5	1-3 ^A	45	45	383	383	29	71	67	33	1 1/4	1 1/4	S	9 1/2	0.15
'62 Buick LeSabre	12784563	525	525	No	No	1-3 ^B	1.5-3.5 ^A	45	45	439	441	28	87	76	46	2 1/4	2 1/4	S	12	0.15
'62 Buick Invicta, Electra	12784563	525	525	No	No	1-3 ^B	1.5-3.5 ^A	45	45	439	441	28	87	76	46	2 1/4	2 1/4	S	12	0.15
'62 Cadillac	18436572 ^B	No	480	HYD	HYD	5-2.5	1-2.5	44	44	451	451	39	105	85	59	2 1/4	2 1/4	S	12	0.15
'61 Checker Superba 6 L-Head	153624	375	425	014	014	1-2-3-0	3-2-5-0	30	44	284	284	2	42	42	8	2	1 1/4	S	11	0.15
'61 Checker Superba 6 OHV	153624	375	425	017	017	1-2-3-0	3-2-5-0	30	44	409	409	17	54	62	9	2	1 1/4	S	11	0.15
'62 Chevy II (153 cu. in.)	1342			Zero	Zero	1-2 0	1 5-3-2	46	46	335	335	34	86	68	52	2	1 1/4	S	9	0.15
'62 Chevy II (194 cu. in.)	153624			Zero	Zero	1-2 0	1 5-3-2	45	45	335	335	34	86	68	52	2	1 1/4	S	9	0.15
'61 Chevrolet Corvair	145256	500	500	Zero	Zero	1-2 7	1 5-3-2	45	45	314	344	43	93	87	69	1 7/8	1 1/2	S	9	0.15
'62 Chevrolet 6 235.5 cu. in.	15 674	500	475	Zero	Zero	1-2 7	1 5-3-2	31	46	328	328	62	94	92	62	2	1 1/4	S	11	0.15
'61 Chevrolet V-8 283 cu. in.	18436572 ^B	475	450	Zero	Zero	1-2 7	1 5-3-2	46	46	334	334	33	102	50	302	2	1 1/4	S	11	0.15
'62 Chevrolet V-8 327 cu. in.	18436572 ^B	500		Zero	Zero	1-2 7	1 5-3-2	46	46	398	398	32	87	74	45	2	1 1/4	D	11	0.15
'62 Chevrolet V-8 409 cu. in.	18436572 ^B	700		8	18	1-2 7	2 5-4-2	46	46	398	398					2	1 1/4	D	11	0.15
'62 Chevrolet Corvette	18436572 ^B	475	450	HYD	HYD	1-2 7	1 5-3-2	46	46	399	399	35	72	76	71	2	1 1/4	D	11	0.15
'62 Chrysler Newport, 300	18436572 ^B	500	500	HYD	HYD	1-3	2-4	45	45	390	390	13	59	59	13	2 1/4	2	S	11	0.15
'62 Chrysler New Yorker	18436572 ^B	500	500	HYD	HYD	1-3	2-4	45	45	390	390	13	59	59	13	2 1/4	2	S	12	0.15
'62 Chrysler 300H	18436572 ^B	500	500	15H	24H	1-3	2-4	45	45	444	456	22	66	62	26	2 1/4	2	D	12	0.15
'61 Comet	153624	500-550	475-525	16H	16H	1-2 5	2-3 5	4	4	344	344	15	37	45	7	1 1/4	1 1/2	S	9	0.11
'62 Dodge Lancer	153624	550	550	10H	20H	1-3	2-4	45	45	371	364	8	44	48	TDC	1 1/4	1 1/2	S	9	0.15
'62 Dodge Dart 6	153624	550	550	10H	20H	1-3	2-4	45	45	371	364	8	44	48	TDC	1 1/4	1 1/2	S	10	0.15
'62 Dodge Dart V-8	18436572 ^B	500	500	10H	18H	1-3	2-4	45	45	371	364	8	44	48	TDC	1 1/4	1 1/2	S	10	0.15
'62 Dodge Polara	18436572 ^B	500	500	HYD	HYD	1-3	2-4	45	45	371	364	8	44	48	TDC	1 1/4	1 1/2	S	10	0.15
'61 Ford Falcon	153624	500-550	475-525	16H	16H	1-2 5	2-3 5	4	4	344	344	15	37	45	7	1 1/4	1 1/2	S	9	0.11
'62 Ford 6 223 cu. in.	153624	500-525	450-475			.001-.0024	.0028-.0042	44	44	370	370	23	59	77	10				11.03	
'62 Ford V-8 292 cu. in.	15486372	500-525	450-475	18H	18H	.001-.0024	.0028-.0042	44	44	377	375	12	54	58	8				11.03	
'62 Ford V-8 352 cu. in.	15426378	500-525	450-475	HYD	HYD	.001-.0024	.0028-.0042	44	44	408	408	22	68	68	22				11.03	
'62 Ford V-8 390 cu. in.	N.A.	500-525	475-500	HYD	HYD	.001-.0024	.0028-.0042	44	44	408	408	26	64	67	23				11.03	
'62 Imperial	18436572 ^B	500-525	500	No	No	1-3	2-4	45	45	390	390	13	59	59	13	2 1/4	2	S	12	0.15
'61 Lincoln Continental	15426378 ^B	No	450-475	HYD	HYD	1-2	2-3	4	4	408	408	22	68	63	27	1 1/4	1 1/4	D	11.06	e
'61 Mercury 6	153624	500-525	475-500	19H	19H	1-2 4	2 8-4-2	45	45	341	339	23	59	71	10	2 1/4	2	S	11	0.15
'61 Mercury V-8 292 cu. in.	15486372 ^B	500-525	450-475	19H	19H	1-2 4	2 8-4-2	45	45	341	339	12	54	78	8	2 1/4	2	S	11	0.15
'61 Mercury V-8 352, 390 cu. in.	15426378 ^B	500-525	450-475	HYD	HYD	1-2 4	2 8-4-2	45	45	371	369	22	68	68	22	2	2	S	11	0.15
'62 Oldsmobile F85	18436572 ^B	550	500	HYD	HYD	1-2 5	1 5-3	45	45	384	384	22	58	60	20	1 1/4	1 1/4	S	9 5/8	0.15
'62 Oldsmobile	18736542 ^B	550	500	HYD	HYD	1-2 5	1 5-3	45	45	435	437	11	50	54	16	2 1/4	2 1/4	S	11	0.15
'62 Plymouth Valiant	153624	550	550	10H	20H	1-3	2-4	47	47	371	364	8	44	48	TDC	1 1/4	1 1/2	S	9	0.15
'62 Plymouth 6	153624	550	550	10H	20H	1-3	2-4	47	47	375	368	8	44	48	TDC	2	1 1/4	S	11	0.15
'62 Plymouth V-8 318 cu. in.	18436572 ^B	500	500	10H	18H	1-3	2-4	45	45	400	368	17	47	55	9	2 1/4	2	S	11	0.15
'62 Plymouth V-8 361 & 383 cu. in.	18436572 ^B	500	500	HYD	HYD	1-3	2-4	45	45	430	430	24	64	64	20	2 1/4	2	D	11	0.15
'62 Pontiac Tempest	1342	680-700	580-600	0	0	2 1-3-8	2 6-4-3	30	45	330	330	14	58	48	24	1 1/4	1 1/2	S	9	0.15
'62 Pontiac V-8 Std. Trans.	18436572 ^B	480-500	480-500	0	0	2 1-3-8	2 6-4-3	30	45	330	330	14	58	48	24	2 1/4	2	S	11	0.15
'62 Pontiac V-8 Hydra-Matic	18436572 ^B	No	480-500	0	0	2 1-3-8	2 6-4-3	30	45	330	330	14	58	48	24	2 1/4	2	S	11	0.15
'61 Rambler American	153624	550	475	16C	18C	2-3 5	2-3 5	45	45	340	340	10	58	49	19	1 1/4	1 1/2	S	9	0.15
'61 Rambler American Custom	153624	550	475	12H	16H	1-2 4	2 8-4-2	45	45	408	408	26	64	67	23	2	1 1/4	S	9	0.15
'61 Rambler Classic 6	153624	550	475	HYD	HYD	2-3 5	2 5-4	45	45	372	369	12 1/2	51 1/2	53 1/2	10 1/2	2	1 1/4	S	9	0.15
'61 Rambler Classic 8	18436572 ^B	550	475	12H	14H	1-3	1-3	30	45	375	375	12 1/2	51 1/2	53 1/2	10 1/2	1 1/4	1 1/4	S	10	0.15
'61 Rambler Ambassador V-8	18436572 ^B	550	475	HYD	HYD	1-3	1-3	30	45	375	375	12 1/2	51 1/2	53 1/2	10 1/2	1 1/4	1 1/4	S	10	0.15
'62 Studebaker 6	153624	500	550	24H	24H	1 5-3 5	1 5-3 5	45	45	375	375	15	50 1/2	55 1/2	10	1 1/4	1 1/4	S	10 1/2	0.07
'62 Studebaker V-8	18436572 ^B	500	550	24H	24H	1 5-3 5	1 5-3 5	45	45	375	375	11	54 1/2	51 1/2	14	2	1 1/4	S	11 1/2	0.07
'61 Thunderbird	15426378 ^B	No	475-500	HYD	HYD	1-2 4	2 8-4-2	45	45	408	408	26	64	67	23	2	2	D	11	e

ABC—After bottom center
ATC—After top center
BTC—Before top center
BBC—Before bottom center
HYD—Hydraulic valve lifters
D—Dual
C—Cold
H—Hot
S—Single
e—Self adjusting
TDC—Top dead center
p—Sport Fury has 2 in. muffler inlet, dual exhaust

*—Figures given for 4000 and 4100
4300 figures—muffler inlet, 2 in.; Tailpipe 1 1/4 in.
†—Figures given in thousandths of an inch
▲—Left bank odd
●—Right bank odd
○—Right 1-2-3-4, Left 5-6-7-8
◆—No major adjustment required
○—0.10 top, .015 bottom
†—390 cu. in. is 575-600
‡—Single on 352 cu. in., dual on 390 cu. in.
▲—Adjust to slight drag. Back off 8 notches.
x—Std. given, Opt. 11

■—Adjust to heavy drag. Back off 10 notches front, 12 notches rear
*—Adjust to slight drag. Back off 7 notches
▲—Intake 45-45 1/2, exhaust 45-45 1/2
▲—Top clearance given
*—Rear drum 1 in. smaller
†—45 1/2-45 1/2
‡—Adjust to heavy drag. Back off 12 notches on front brakes, 16 notches rear brakes
⊕—Series 1300—manual transmission tappet clearance is—intake 6H, exhaust 18H
▲—Dual on Hawk
8—Top clearance given. Bottom is 2-4

Passenger car sales data and specifications appeared in September MOTOR and will be listed again in November

Loaded with advantages at no added cost!

**with long chassis--lifting height of 25"
only suggested dealer price**

**Model M
offers extra features for
same price of
standard 2-ton jacks
now on the market:**

properly balanced for
easy handling, and
reduced pumping effort

handle has full 90° pump-
ing arc and three handle
locking positions for
easier spotting

ram overtravel prevented
by positive stop in
hydraulic unit — another
H-W engineering exclusive

roller bearing front
wheels; ball bearing
casters

safety valve to protect
jack from overload
damage

quick snap-out cover plate to provide
access to all grease fittings — jack
doesn't need to be turned over to
reach lubrication points

lifting
a low c

dual pis-
cut-off
tact in

long-chassis
pumping roo



All this *plus* the safety of a forged steel swivel saddle, malleable lifting arm, and flanged-steel side plates to increase strength with less weight. Get the most for your money — go modern with Model M. Your H-W Jobber has full facts now, or write us for details.

Capacity	2 to
Chassis Length	47
Handle Length	46
Saddle Low Point	4 1/4
Saddle High Point	25
Shipping	150

Hein-Werner
CORPORATION
WABESHA WISCONSIN





New Products

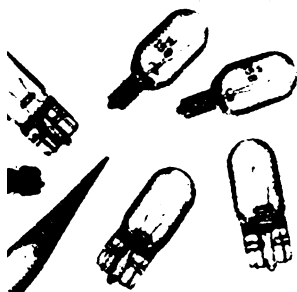
...TO USE ... TO SELL

W Gasket Compound



W Products, Inc., P. O. Whittier, Cal., has introduced a new all-purpose gasket compound called Copper-Coat. According to the maker, the special metallic compound with copper fills surface irregularities and improves heat conduction without gumming the shellac. It sticks in two minutes, holds in place so that they will not slide out of alignment, and provides a protective seal with disassembling. Copper-Coat is sold in cans with a dobber

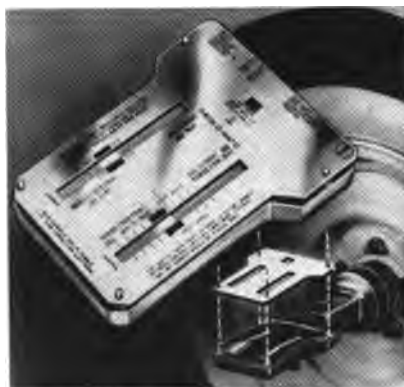
Westinghouse Baseless Bulb



type miniature light bulb as an indicator lamp on cars and dashboards is offered by Westinghouse Lamp Div., Westinghouse Electric Corp., Bloomington, Ill. The compact bulb has no base or threads. Instead,

the glass at the end of the bulb is formed into a flat wedge, which is inserted into a simplified socket. Electrical contact is made by two tiny wires which are crimped into the recesses in the wedge base. Westinghouse is currently making two types wedge-base bulbs; 12 volt bulb producing two candlepower has a rated life of 500 hours. The second, a 12 volt bulb, produces 1 candlepower and has a rated life of 1,500 hours.

Bear Check-O-Matic



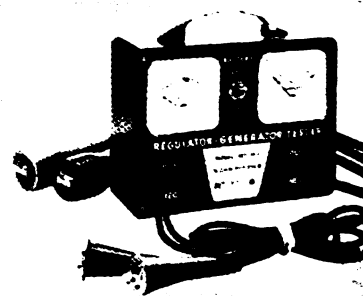
Bear Manufacturing Co., Rock Island, Ill., reports a new concept in wheel-alignment checking procedures. The Check-O-Matic System is a series of metal card overlays for the company's No. 27 Magnetic Alignment Gauge. These cards show at a glance if the car meets factory specifications and how to make the quick adjustment. According to the maker, the operator does not have to read specification charts or refer to shop manuals. If the spirit level bubbles register in a marked area, the car is in alignment. If the bubbles and marks do not match, ruled lines on the card show how many $\frac{1}{16}$ in. shims are required and where they are to be replaced or removed. The manufacturer offers these cards in a handy index case which fits inside the No. 27 gauge case or can be hung on the wall on the side of a pit.

Thermoid Radiator Hose



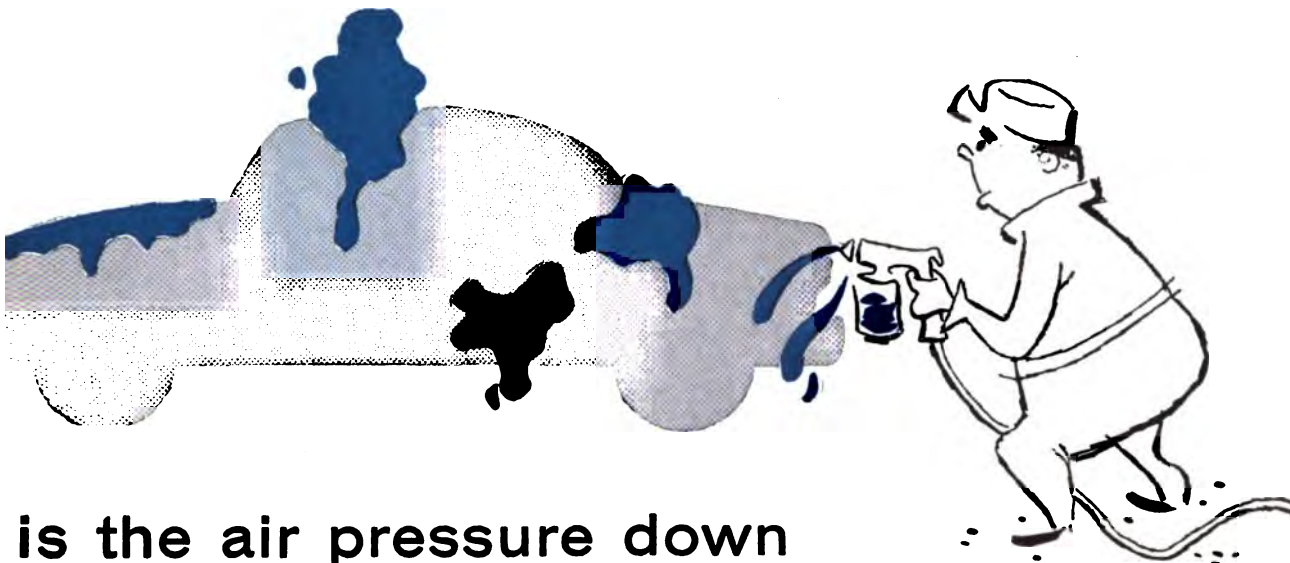
Thermoid Div., H. K. Porter Co. Inc., 200 Whitehead Rd., Trenton, N. J., has developed a new construction for bulge-type radiator hoses. The new hose is all neoprene with cross-cord reinforcement and is built to meet SAE R 1 specifications. The new Thermoid hose is claimed to have more than twice the burst strength of the wrapped hose construction and provides the needed flexibility to absorb road and motor vibration.

UMS Tester



A new regulator-generator tester is being offered by United Motors Service Div., General Motors Co., Detroit, Mich. Designed for use on passenger cars and light trucks, the tester checks both 6 and 12 volt systems and contains a built-in ohm resistor. It comes complete with carrying handle and heavy duty leads.

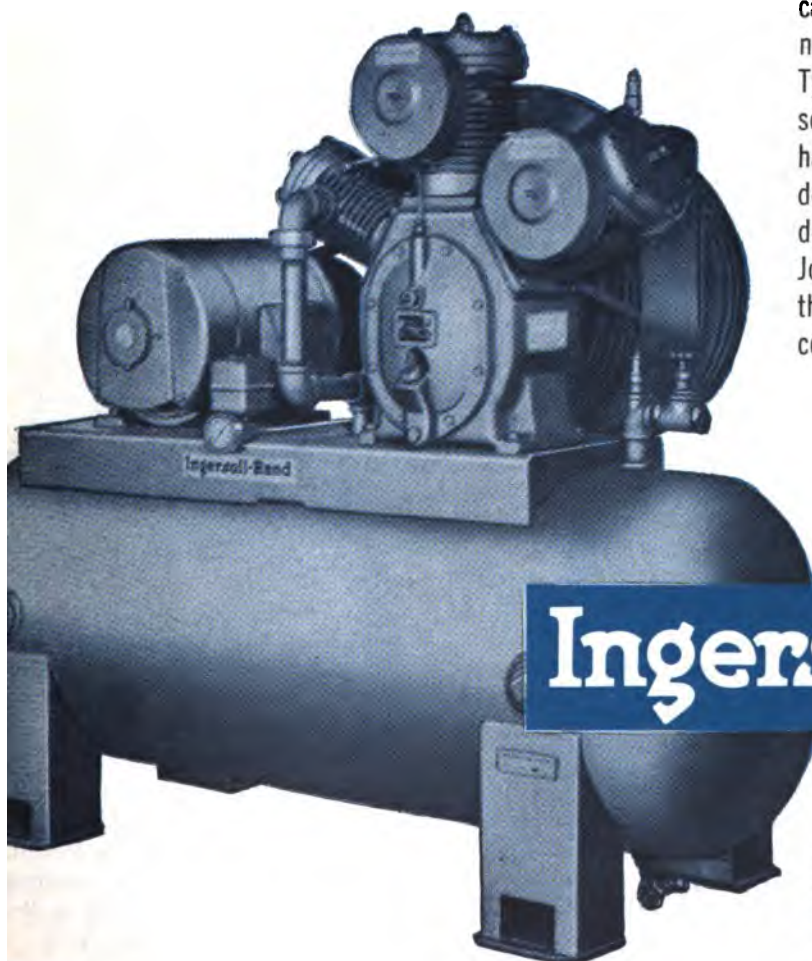
[CONTINUED ON PAGE



is the air pressure down at your tools?

The newest, most efficient air-operated tools and equipment you can buy are only as effective as the air power that drives them. Reduce this air power, and you reduce their efficiency.

Since inadequate supply is usually the cause of low air pressure, the economical solution is an Ingersoll-Rand Type 30 Compressor. These compressors have shown, for years, that they have the power and performance to deliver full capacity with trouble-free dependability . . . Call your local I-R Jobber today for a quick run-down on the special features of these rugged compressors.



Ingersoll-Rand

11 Broadway, New York 4, N. Y.

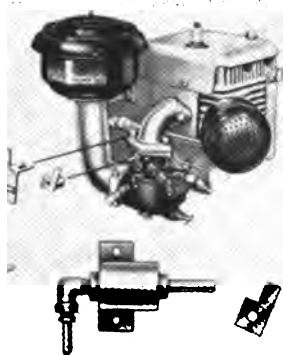
Ingersoll-Rand Type 30
Air-Cooled Air Compressor
½ through 20 hp

New Products

...TO USE...TO SELL

continued from page 98

Automatic Pneumatic Control



Automatic slowdown device for air compressors was announced by Automatic Pneumatic Machinery Co., Rockford, Ill. This pneumatic device which operates during the running cycle, is available as optional equipment on all Champion and gasoline-powered air compressors.

Auto-Test Testers



Test Inc., 600 S. Michigan Ave., Chicago 5, Ill., announces a series of automotive electrical testing instruments in the Starflash group. This

line consists of a DC ammeter, a DC voltmeter, cam angle tester, ignition tester, primary tachometer and power timing light. The Starflash group comes with its own service tray or in a golf-type "service-mobile." They are encased in 20-gauge cold rolled steel with chrome plating. Slip-proof friction feet prevent units from sliding off sloping fenders and test leads in the Starflash group are all neoprene-jacketed to resist corrosion from gasoline, oil and grease.

U.S. Casting Crack Detector



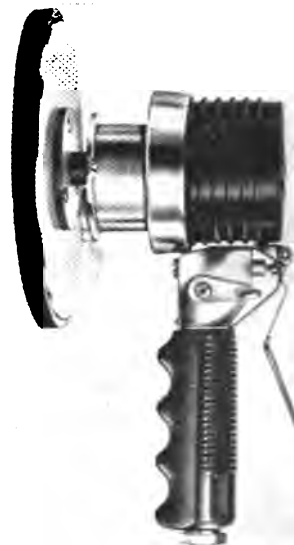
United States Casting Repair Corp., 6432 Edmund St., Philadelphia 35, Pa., has announced development of a low cost system for detecting surface cracks, flaws, defects and porosity in metallic or non-metallic solids. Called Seal-Lock Fluorescent Detector, this equipment is said to be capable of finding the most minute hairline cracks as well as straight-through leaks in such materials as aluminum, copper, plastics, stainless steel and other ferrous or non-ferrous solids. Defects appear as extremely bright, glowing lines or spots.

Walker Muffler



Walker Manufacturing Co., 1201 Michigan Blvd., Racine, Wis., offers the Continental Mark II muffler, which is of the straight-through "glass pack" type. According to Walker, there are no seams to blow, no welded or crimped heads or connections to crack or break. The entire muffler is designed to resist road shock, vibration and internal explosion.

National-Detroit Sander



National-Detroit, Inc., Rockford, Ill., has introduced a new model of its Dual-Action sander, Model DA-6. Like other National-Detroit DA sanders, the sanding pad is centered and revolves free and independent of the drive head. The maker says, reduces heat and stops loading of abrasives.

Ideal Transmission Jack



A portable transmission jack removing and replacing automatic transmissions is announced by Ideal Manufacturing Co., Oskaloosa, Ia. It is one-man operation, portable, and designed to handle all automatic drives. Mounted on ball-bearing steel caster wheels, has a lifting capacity of 450 lb. 1/2 in. ratchet or impact wrench all that is needed to raise or lower the Trans-Jack.

[CONTINUED ON PAGE

**GET
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**WITH EACH CASE
OF TUNG-SOL
HEADLAMPS**



ANY TYPE:
4001 • 4002 • 4005
6006 • 6012 • 6013

- PURE VIRG
PLASTIC
- HEAT SEAL
REINFORC
- SLASH PO
- ARM VENT
- STYLISH R
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- PERFECT F
WORK
- AVAILABLE
AND LARG
- MADE IN U



CONVENIENT

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OFFER LIMITED—ORDER NOW



TUNG-SOL® AUTOMOTIVE PRODUCTS DIV.
TUNG-SOL ELECTRIC INC., NEW

MOTOR, October 1961

New Products

TO USE... TO SELL

continued from page 100

Fuel Pump



uretor Div., ACF In-
2840 N. Spring Ave.,
lo., has a full line of
uel pumps. Marketed
's Zip-Pump label,
ly cover virtually all
le passenger cars,
ses on the road today.
e, according to the
piston-operated vac-
pumps for increasing
of automotive vac-

Clear Resin



ll-purpose clear resin
as a primer, a sealer
el additive, is offered
7301 Bessemer Ave.,
Ohio. As a flash
is said to have excel-

lent adhesion to all metals and to provide a fine bond between plastic body fillers and the finish coat. Faster drying and increased luster are reportedly obtained when Rezall is used as an enamel additive. It gives the enamel added flow and improves all its qualities, the maker claims.

Sun Engine Tester



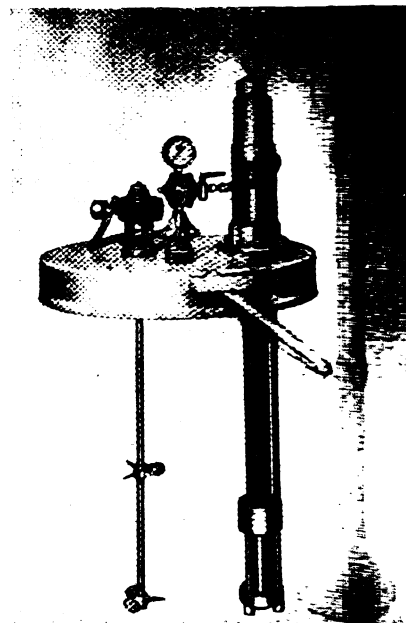
Sun Electric Corp., 6323 Avondale Ave., Chicago 31, Ill., has introduced an automotive engine tester Model 900. According to the company, it is capable of testing vehicles with electrical systems of 6, 12 or 24 volts. The transistorized tachometer has three scale ranges; a new Sun coil 'scope for testing of automotive coils and vacuum readings in both inches and millimeters, which allows the mechanic to use the instrument on foreign vehicles as well as on American makes. It also has 6 in. fully illuminated meters.

Rimac Rethread Dies



Rinck-McIlwaine Inc., 16 Hudson St., New York 13, N.Y., has available a new set of three dies for rethreading damaged armature shafts. The sizes are $\frac{7}{16}$ by 20, .665 by 20 right-hand, and .665 by 20 left-hand for Corvair. The set comes in its own solid wood holder.

Binks Steel Pump



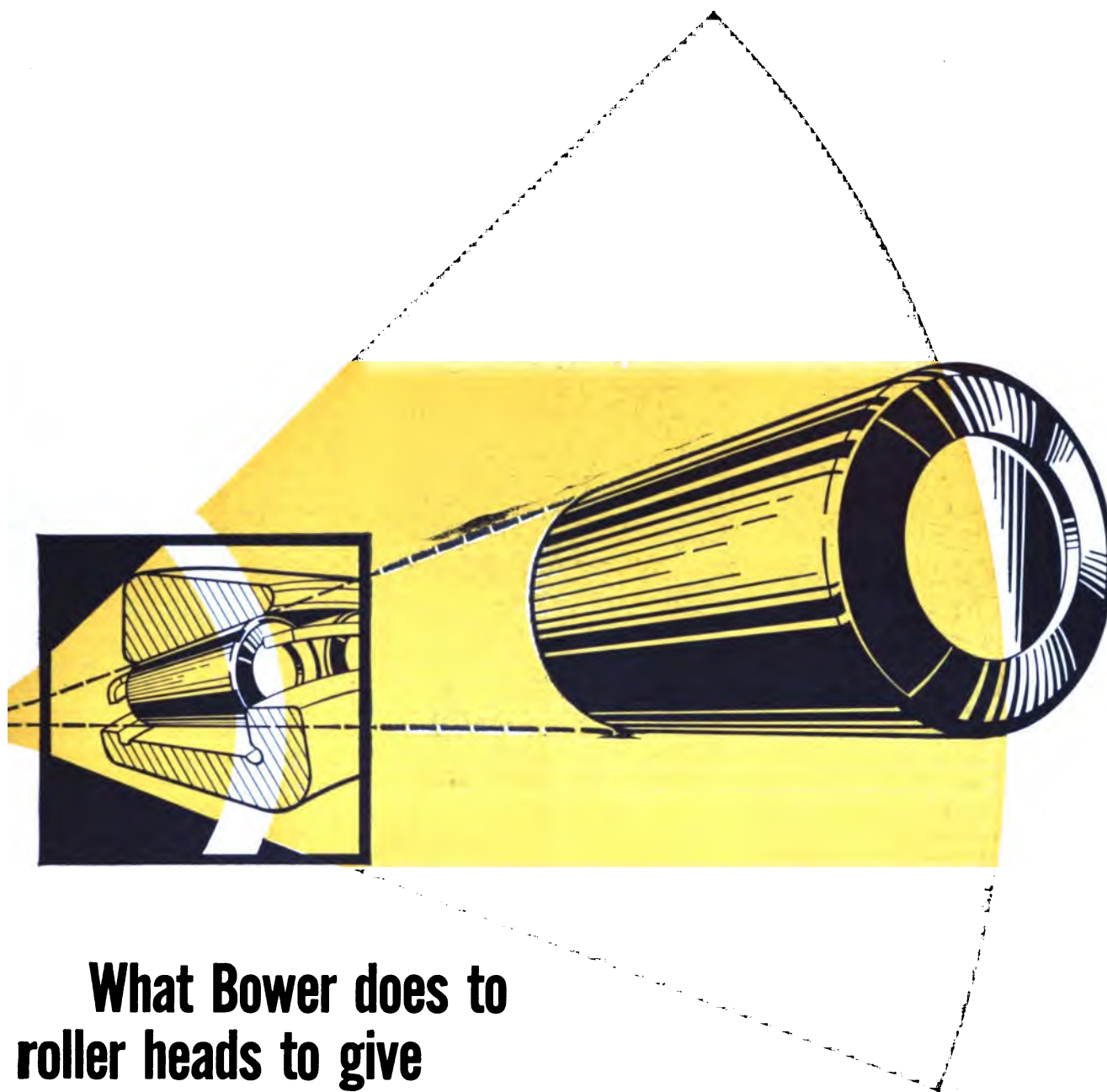
A new pump for handling high volumes of light and heavy viscosity corrosive fluids has been developed by Binks Manufacturing Co., 3140 Carroll Ave., Chicago 12, Ill. The pump has an all stainless steel fluid section, so that any material passing through the pump comes into contact with this non-corrosive metal only. The unit is air operated with a 5-to-1 pumping ratio. Air consumption is 2 cu. ft. per minute per gallon of material pumped.

Hunter Axle Set



A new axle-correction set has been introduced by Hunter Engineering Co., Hunter and Ladue Rd., St. Louis 24, Mo. The maker states that this set is designed for both rear axle housing and front axle work on passenger cars, light pick-ups and trucks up to 2 tons. This 21-piece set is available with or without two 12-ton hydraulic jacks. All clevises, hangers and twisting hooks are made of chrome-nickel-moly.

[CONTINUED ON PAGE 104]



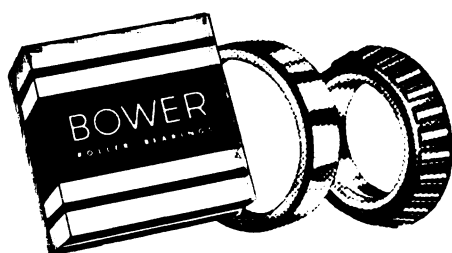
What Bower does to roller heads to give tapered bearings longer life

Each roller head has a critical function in a tapered bearing. The true rolling depends on exact roller alignment, the contact between roller heads and the surface on which the bearing must be controlled. Bower Spher-O-Honed bearings are designed with a spherical radius on each roller head for built-in control. This eliminates sliding and rubbing and results in longer bearing life.

Finishing grinding of roller heads is the major process in

Spher-O-Honing. In addition, precision honing of cone raceways, flange faces and rollers allows smoother rolling. By providing an O-shaped lubrication groove at the base of the cone flange, friction on roller heads is reduced to a minimum. These processes all contribute to the operating efficiency and longer life of Bower tapered-roller bearings.

You'll find that your Bower bearing jobber can supply you with the roller bearings you need, in all types and sizes. Call him when you need replacements.



BOWER ROLLER BEARINGS

FEDERAL-MOGUL SERVICE

DIVISION OF FEDERAL-MOGUL-BOWER BEARINGS, INC. • DETROIT 13, MICH.

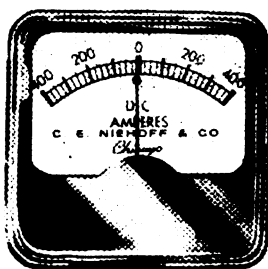
New Products

...TO USE... TO SELL

continued from page 102

Niehoff Test Meters

Niehoff and Co., 4925 W. Leve Ave., Chicago 30, Ill., has introduced two electrical test meters. The generator current indicator is an induction type and indicates generator output, limiter setting. It can lo-



cate shorts in switches and accessories. The starter current indicator is also an induction type meter and indicates the approximate cur-

rent drawn by the starter motor. This device requires no connections. The unit is held over the starter cable while the meter is cranking. Excessive draw indicates worn bushings, broken armature, bent shafts, etc.

Turtle Wax for Bumpers



Turtle Wax, Inc., 1800 N. C. Bourn Ave., Chicago, Ill., announces another one-of-a-kind product—Bumper Wax. It says the product will shield automobile bumpers, as well as other metal surfaces, from the heavy punishment they take from oil, sleet, salt spray and snow during winters, and provide a protective film that will last for months without chipping, peeling or discoloration.

Bumper Wax is not a lacquer but contains a wax base and a fine abrasive. It is good on all chrome and metal. It will not harm paint, the company says.



There's the LOWEST COST complete SPENDING COMBINATION" on the market



Liquid DL is a product of DL Products Inc., makers of famous DL Handi-Cleaner, the original, waterless cream type hand cleaner, for more than 25 years.

DL PRODUCTS, INC.
Buffalo 4, New York
Full details write to Dept. M-10-8

LIQUID DL HANDI-CLEANER Insures "HEALTHY-CLEAN HANDS"

And here's why:

Cleans hands cleaner, faster! DL's exclusive deepdown cleansing action dissolves grease, grime, dirt and actually "lifts it out" removes tenacious stains other hand cleaners can't touch.

SAFER — INDEPENDENT LABORATORY TESTS CERTIFY DL IS A NON-TOXIC PRODUCT.

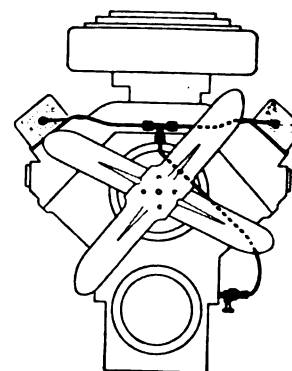
Contains both LANOLIN and HEXACHLOROPHENE — conditions hands as it cleans, guards against dermatitis and infections.

Complete — ready to use.

Mount bracket on wall, bench, pump island, etc., insert one-half gallon container, thumb screw locks container securely in place, remove metal cap, insert dispenser . . . and you have a complete hand cleaning unit at one low price!



Houser Oil Kit



Houser Engineering and Manufacturing Inc., Bluffton, Ind., has announced a new exterior oiling system to end rocker arm oil starvation on Ford and Mercury engines. [CONTINUED ON PAGE 10]

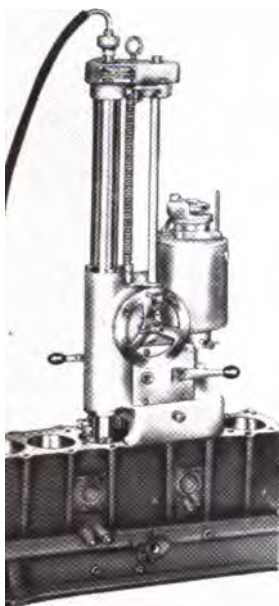
CANADIAN OFFICES: 236 NORSEMAN ST., TORONTO 18, ONTARIO

New Products ...TO USE...TO SELL

continued from page 104

The company claims that requires no drilling or tapping, can be installed in minutes, requires no absolute lubrication and allows for easy removal of covers without removing the oiler installation. The new Houser unit is designed for use on V-8 1954-61 and small Mercedes 1954-57.

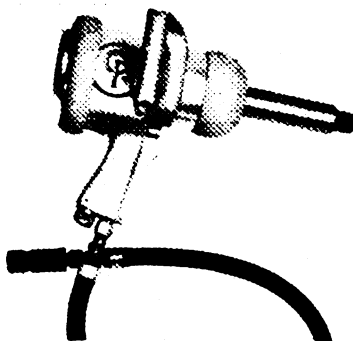
Kwik-Way Cylinder Borer



Rapids Engineering Co., 111 St. N.E., Cedar Rapids, Iowa, announces the addition of a new model cylinder boring machine to the Kwik-Way product line. Known as Model FW, this machine replaces the company's previous model FR. Model FW is designed for top suction chip removal and has a capacity of 2.2 to 2.5 inches. The two speeds of 620 and 1240 rpm are instantly changeable.

Chicago Air Wrenches

The Chicago Pneumatic Tool Co., 601 E. 5th St., New York 17, N.Y., announces the development of new air wrenches designed for heavy-duty application. The CP-793 CH is a 1 in. square-drive air wrench rated at 11 1/4 in. bolt torque. Designed for tire work, it features a Select Air switch which allows the operator to obtain two



different power outputs, and a 6 in. extended shank provides reach

into deep Budd-type wheels. CP-793 SH Tork-Rite is a square-drive air wrench for tire farm equipment shops.

Stromberg Carburetor

A new carburetor called Stromberg CD is offered by B Corp., Eclipse Machine Division, Elmira, N.Y. The carburetor, which has fewer parts than the conventional unit, is designed for horizontal or semi-downdraft engine applications. [CONTINUED ON PAGE 105]

NOW— ALL FROM ONE SOURCE!





CAPS
RADIATOR CAPS
New Exclusive Green Push Button Safety Caps—also standard pressure caps. Open stock or 12 per display ass't.



GASOLINE CAPS
A complete line of fenderwell caps. Also, outside caps and locking caps in gleaming chrome.

OIL FILLER CAPS
All sizes and styles to fit American and foreign cars—trucks and tractors.



CLAMPS
QUICK-SEAL
The new quick-attach worm gear clamp with SAF-T-LOCK feature.

GOLD SEAL
The popular Murray worm-drive clamp for all radiator and heater hose installations. Available with collared or non-collared screw. In open stock or attractive merchandisers.

BATTERY SERVICE PRODUCTS
BATTERY HOLD DOWNS—New HB-12 Profit-Pak contains 12 steel-reinforced plastic battery hold downs in the 6 most popular sizes. Display is FREE.

CLAMP-A-RAMA
Displays and holds 100 clamps in 4 popular sizes. Display is FREE.

Your single source for:

See Your Jobber, or Write for Details to:
TOWSON 4, MARYLAND Phone VA 3-9100





New Products

...TO USE...TO SELL

continued from page 109

Ditzler Featheredger

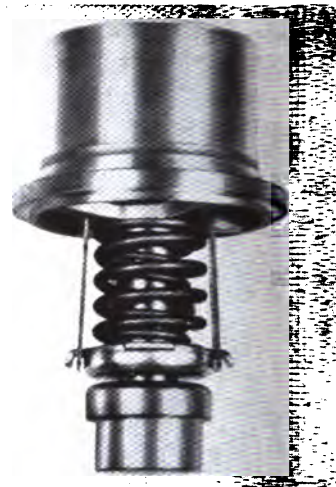
A combination featheredger that reportedly will work equally well on acrylic and lacquer is announced by Ditzler Color Div. of Pittsburgh Plate Glass Co., 8000 W. Chicago Ave., Detroit 4, Mich. Known as Combination Feather-



edger DX-567, the product is claimed to eliminate shop problems of sand scratches on the feathered edge of either acrylic or lacquer. It is said that DX-567 does not re-

move enamel, thus enabling the washing off of acrylic or lacquer without removing the synthetic undercoat used under these original automotive finishes.

Dole Thermostats



The Dole Valve Co., Automotive Replacement Sales Dept., 6201 Oakton St., Norton Grove, Ill., makes available six new models of industrial thermostats designed for trucks, buses, off-the-road equipment and stationary engines. The new models are heavy-duty, of the solid expansion type.

Allen Remote Starter



Allen Electric and Equipment Co., 2101 N. Pitcher St., Kalamazoo, Mich., announces a universal remote starter and ignition switch control. Known as Model 26-12, it has a three-way universal switch that will start, stop or crank the engine. According to the manufacturer, the mechanic can easily control the starting motor while working outside the car without the need of an assistant to operate the vehicle's starting switch.

[CONTINUED ON PAGE 116]

Radiator Servicing Profits Now Greater Than Ever!

NEW INLAND 1-Piece Radiator Shop

HOT CLEANING VAT WITH ELECTRIC ELEVATOR

FLO-TEST MACHINE

TEST & REPAIR BENCH WITH ELECTRIC ELEVATOR

3 ESSENTIAL UNITS COMBINED INTO 1

Inland's newest unit makes radiator servicing more profitable than ever. Reduces your initial cost by combining the Flo-Test Machine, Hot Cleaning Vat and Test & Repair Bench into one complete radiator department. Enables you to do the entire Testing, Cleaning and Repairing job. Compact. Saves steps.

LESS SPACE REQUIRED! Complete unit is only 11' 7" long, 3' 6" wide.

LARGE CAPACITY! Handles all car, and many truck and tractor radiators.

VAT FEATURES! Solution agitator speeds radiator cleaning. Automatic Timer turns heat OFF at closing time, turns it ON at any pre-determined hour so solution is hot when you arrive for

work. Even turns it off-on week ends. **OPERATING COST IS LESS!** A full time operator is not needed. One of your present employees, in only a part of his time, will produce good additional profits with no increase in overhead.

WE TRAIN YOUR OPERATOR! Our free factory school quickly makes your man a professional radiator repairman.

BIG PROFITS SERVICING RADIATORS! Users report: "\$900 first 30 days!" (Ills.) "\$4,500 in 6 months!" (Pa.) "\$18,000 first 9 months!" (Cal.) The market is growing. Many radiators need cleaning. The hourly return is high. Inland's national advertising helps you.

WRITE FOR NEW 32 PG BOOK

Shows equipment, prices, training course, Pays-For-Itself purchase plan and experiences of other operators.

INLAND MFG. CO.

1108 Jackson Street
Dept. M-10, Omaha 2, Nebr.
World's Largest Manufacturer of Radiator Servicing Equipment

INLAND MFG. CO., Dept. M-10 1108 Jackson St., Omaha 2, Nebr.
Please send free 32-pg. book describing new 1-Piece Radiator Shop, training school, prices, etc.

FIRM _____ (PLEASE PRINT)

ADDRESS _____

CITY _____ ZONE _____ STATE _____

BY _____ TITLE _____

If dealer, make of car sold _____

Are you now operating a radiator Dept.? ☐ Yes ☐ No



**NOW—BIGGER, BETTER ADVERTISING
TO SEND BATTERY SALES BOOMING!**

Simply say Delco

... because again this year the new Delco Battery advertising program gives you the powerful sales support in the battery business. Just look it over!



TELEVISION—NFL "Pro Football Game of the Week," on CBS Saturdays, 4:30-5:30. Plus telecasts of eight major bowl games.

RADIO—NBC "News on the Hour," "Monitor," "News of the World" and "Emphasis" 42 commercials each week.

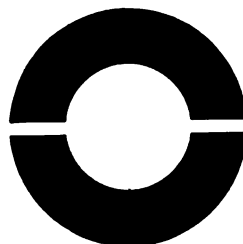
OUTDOOR BILLBOARDS—Colorful, hard-selling battery advertising in key market coast to coast.

MAGAZINES—The Saturday Evening Post, Look and Reader's Digest—convincing full battery sales messages in full color.

POINT-OF-SALE MATERIAL—To tie you in with the selling power of Delco advertising. Be sure you cash in on this bigger-than-ever program ... call your Delco Battery Wholesaler.

Delco Batteries are distributed nationally through **United Motors Service**

UNITED MOTORS SERVICE, Division of General Motors

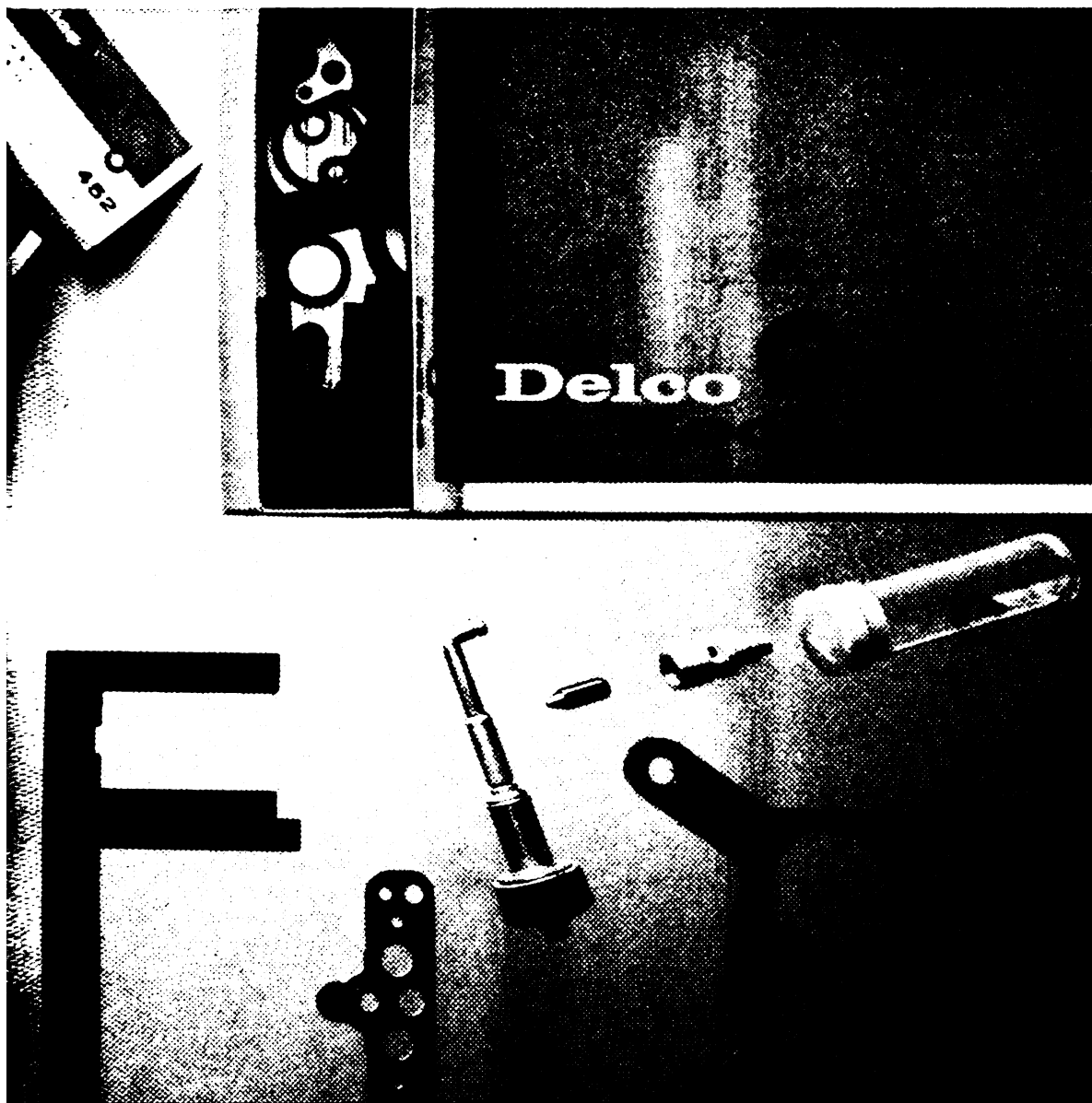




NT TO TUNE UP MORE CARS WITH FEWER imply say Delco

IT'S
 TUNE-UP
 TIME!
 For extra
 profit
 broader
 coverage
 with less
 investment
 say
 Delco

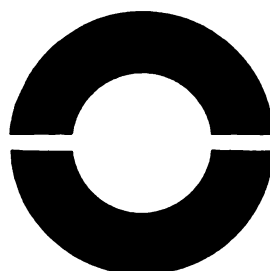
Delco Remy and Delco Rochester and Delco Packard. Put this popular ten Delco parts up-front in your modern Tune-Up Center . . . and watch your inventory overhead problems melt before a sunnier profit picture. Why? Because Delco Ignition Parts, Delco Rochester Carburetor OK Kits and Delco Packard Individual Ignition Leads are fast turnover items. ■ Delco is a brand name that customers know and And these quality lines are long on coverage, short on inventory. Take, for example just 16 Delco Remy contact sets. That's all you need to service 97% of all cars registered. For a quick, quality carburetor tune-up of popular U.S. cars and trucks, Delco Rochester Carburetor OK Kits fill the bill with gaskets, needle and valve pump plungers. It's the same story with the new Delco Packard individual ignition leads. From only 12 TVRS leads or seven 440 copper core cable leads, you can get service coverage to nearly all American cars. ■ The United Delco tune-up "Program For Profits" has this whole money-making story . . . efficient coverage, improved



PARTS FROM A SINGLE QUALITY SOURCE

Advertising, training, application and service information. Ask your United Delco Supplier for details. After all, it's better yet, take 15 minutes and let him show you the substantial profit opportunity you have in the tune-up business when you simply say Delco. **Delco Remy** Electrical and Ignition Parts, the complete **Delco Rochester** carburetor service and replacement parts, and **Delco Pack** Ignition Leads are distributed nationally through **United Delco**.

UNITED DELCO, Products of General Motors





UNITED DELCO? WHAT'S IN IT FOR ME?

simply say Delco

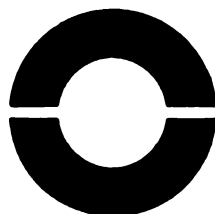
AND YOUR SERVICE BUSINESS IS BETTER ORGANIZED, EASIER TO PERFORM, MORE PROFITABLE! There's money for you . . . BIG money . . . in batteries, tune-up and light repair, and United Delco can show you the way. ■ **UNITED DELCO** cabinets for stocking parts, for one thing. There's one to exactly fit your needs . . . with shelves and drawers organized and clearly marked for efficient parts storage. They pack broad-coverage, fast-moving parts for most tune-up and light repair services—stats, bearings, ignition parts, carburetor parts, shocks, and dozens of others. ■ **DELCO INVENTORY CONTROL** . . . handled through *Inventory Control Cards* that come with your cabinet. At a

glance you know exactly what parts you have in stock. And your United Delco supplier checks all these cards periodically to relieve you of inventory problems. ■ **DELCO CATALOG INFORMATION** helps you do a better job, easier and more efficiently. No more guesswork . . . you always have the latest application information at your finger tips. ■ **DELCO SERVICE TRAINING** is free, through your United Delco supplier. You and your employees can receive practical, scientific schooling at a nearby GM Training Center. ■ **DELCO PACKAGING** has a bright look . . . brilliant and color-keyed to simplify your displays, sales and inventory. ■ **DELCO ADVERTISING** is everywhere—network TV, radio, magazines, outdoor boards . . . all pounding home the Delco action phrase "Simply Say Delco" to car



is in your area, reminding them that you're the quality quarters for skilled tune-up and light repair service. **DELCO LINES** are well-known products, manufactured by many General Motors Divisions. All these lines are distributed through United Delco: Delco Remy, Delco Products, Delco Rochester, Delco Packard, Delco Products,

Delco Harrison, Delco Hyatt, Delco New Departure, Delco Guide, Delco Moraine, Delco Appliance, Delco Race Service Parts, and Hydra-Matic. ■ Your United Supplier will be happy to explain in full the answer to your question, "What's in it for me?" Call him right now, sure worth checking into. **United Delco**



UNITED MOTORS SERVICE, Division of General Motors

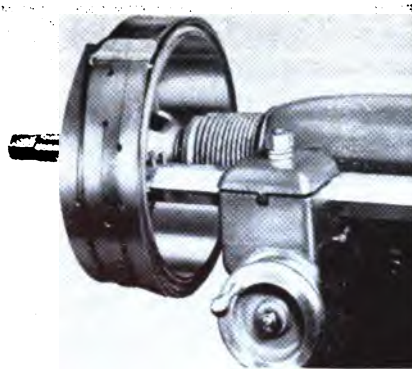
New Products

...TO USE...TO SELL

continued from page 110

nmco Drum Bands

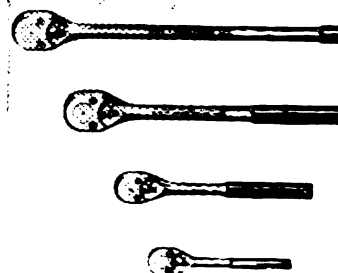
co Tools Inc., 2100 Com-
lth Ave., North Chicago,
announced that its brake
lencer bands are now made
ecial new material, called
na N copolymer. These
re said to provide a greater



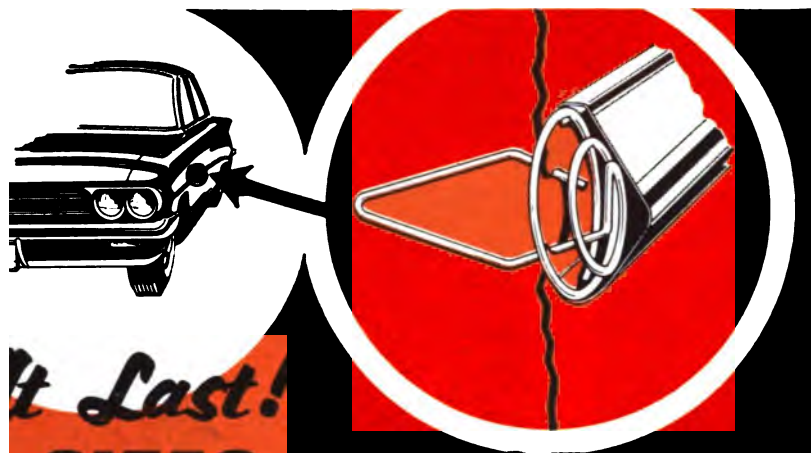
vibration-deadening effect and a
high resistance to deterioration by

oils or heat. Split-center desi
lows maximum silencer ba
drum contact, and the slide-
does not require a spring o
tor. They come in two wide
car and truck drums.

Armstrong Ratchet Wn



Armstrong Brothers Too
5200 W. Armstrong Ave., C
46, Ill., has added a rev
ratchet wrench to its wrend
Available in 1/4, 3/8, and
square drives, the tool has a
head, round handle and
toothed gear for easy rati
action. The manufacturer
that all wearable parts can
dividually replaced. The
designated the "90" series.



It Last!
SIZES
NIVERS
LIPS FI
ou do body work, at

New
Business Gette
Displays • Signs • Packa

Martin Filter Rack



A merchandising rack for
gas filters is being offered by
Filter Corp., Edison, N.J. Th
rack, suitable for counter-top
wall hanging, takes advanta
the "full-view" packaging o
gold-colored units. The assor
provided in the rack is said
every filter need for all pas
cars and light trucks, as w

[CONTINUED ON PAG

MOTOR, October

BUSINESS UP 75% IN ONE Y WITH JENNY® MULTI-JOB WAS



Chuck's 66 Service Station
Arvada, Colorado

Despite 20 competitors within a one-mile radius and a new four-lane highway that by-passes his station, Chuck Blackburn, operator of Chuck's 66 Service in Arvada, Colorado, has increased his business 75% since he put a Multi-Job Washer to work for him.

Chuck can wash 15 cars a day and still handle his gas pumps, lubrication jobs and tire work . . . with only one man to help him. His Multi-Job Washer also works at cleaning motors, power lawnmowers, and filters for restaurants. And keeps his station spotless as well.

Paying for itself in three months, the Multi-Job

Washer has reduced Mr. Blackburn's costs *plus* increasing his business. It does not starve his air compressor, and he no longer needs a white sidewall cleaner or floor soap for

Costing only \$325, the Jenny all-electric Multi-Job Washer can increase *your* profits, a real cleaning job—with no fire, no fumes. And takes up no more room than a 55-gallon drum. For full details, mail coupon.



HOMESTEAD VALVE MANUFACTURING COMPANY

Hypressure Jenny Division, Coraopolls, Pa.

In Canada: Hypressure Jenny Sales & Service, Ltd.,
617 Jarvis St., Toronto 5, Ontario (C.S.A. Approved)

☐ Please send me details on the Jenny Washer.

☐ Arrange for free demonstration.

Name.....Title.....

Company.....

Address.....

City.....Zone.....State..



WHAT IS THE TRUE COST OF "BARGAIN" BRAKE LININGS?

There's little value in "bargain" brake linings for a motorist if his brakes fail to "be there" when he needs them most . . . if it costs him his life, bodily injury, or property damage. The little money saved on inferior linings is a poor reason for choosing them when the *true* cost is so high! To most people — all brake linings look alike. The differences between top quality and so-called "bargain" linings are not things that the average person can see.

So, the motorist looks to the dealer for assurance that he is getting the best, most dependable linings available.

It makes good sense to install the linings of known top

quality. For, the heavier, higher-horsepower cars that travel our traffic-choked streets and highways these days need the superior braking control that good linings can give. In everyday driving situations, your customers automatically expect that their brakes *will* "be there." And should their brakes start to fade or lose their power, they come to you to make whatever adjustments and repairs are necessary. When you show them why new brake linings are needed, most good drivers will give you a quick "O.K."

But you can feel sure that you are giving them the best when you install name-brand linings. Bendix, for example, is a name

long respected for brake linings that are built with expert craftsmanship and the finest materials available.

When you are considering the choice of brake linings, it's well to remember that automobile and truck manufacturers go to great lengths to protect their customers. With their vast purchasing power, as well as their continuing research and development programs, they make sure that the brake linings they install are the *best*. In fact, as a matter of record that Bendix Brake Linings are installed on more new vehicles than any other brand.

3 BIG REASONS WHY BENDIX BRAKE LININGS MEAN "NEW-CAR SAFETY" FOR YOUR CUSTOMERS

Here's how to sell your customers the best—Bendix® Brake Linings. Tell them that Bendix linings are installed by automobile manufacturers on more new vehicles than any other brand. And let them know that Bendix *replacement* linings are made with exactly the same care and quality control as new-car linings.

SELL RESEARCH AND TESTING

Bendix does more testing and research in brake linings than any other manufacturer. Linings are put through a complete "physical"—checked out under every conceivable driving situation—for long wear and dependable performance. Laboratory tests assure that only the finest, most durable materials are used.

SELL QUALITY MATERIALS

Since engineering specifications are the highest, only the best materials will do. That's why Bendix uses only top-grade raw materials—and is one of the few manufacturers that produces its own resins.

SELL QUALITY-CONTROLLED MANUFACTURING

Each step in the production of brake linings is carefully governed, from raw materials to the finished product. Our machinery is the most advanced, automated equipment available, to reduce the possibilities of human error, and maintain uniformly high quality.

See the new sound-color film "Security Clearance," at the Bendix Brake Clinic in your area. Call your distributor for clinic dates, or write us in Troy, N.Y.

Marshall-Eclipse Division



Laboratory testing—Up-to-date laboratories and trained technicians help maintain the high standards which Bendix has set for its brake lining. The laboratory technician shown here is preparing a resin sample in glass equipment.



Modern facilities—Typical of the kind of equipment by Marshall-Eclipse is this conveyorized oven. High-temperature-resistant friction materials Bendix Brake Linings are cured. This helps produce uniform, top-grade linings.



Bendix Brake Linings—EDF, top quality lining; Bendix Friction King, long-wearing economy lining are available in bonded shoes and drilled shoes. For greater excellence in lining materials, Bendix uses its own resins—one of the few manufacturers to do so.

Eveready Lamp Case



The new Eveready lamp display offered by Union Carbide Consum-

er Products Co., Div. of Union Carbide Corp., 270 Park Ave., New York 17, N.Y., is a complete miniature lamp department in a single handy unit. Eight large clear plastic drawers with dividers, hold 500 lamps. Blank labels for the drawers are provided to help dealers organize lamp inventories. The cabinet stands individually or in stacks on rubber feet to provide a compact display unit for dealer installation.

d from page 116

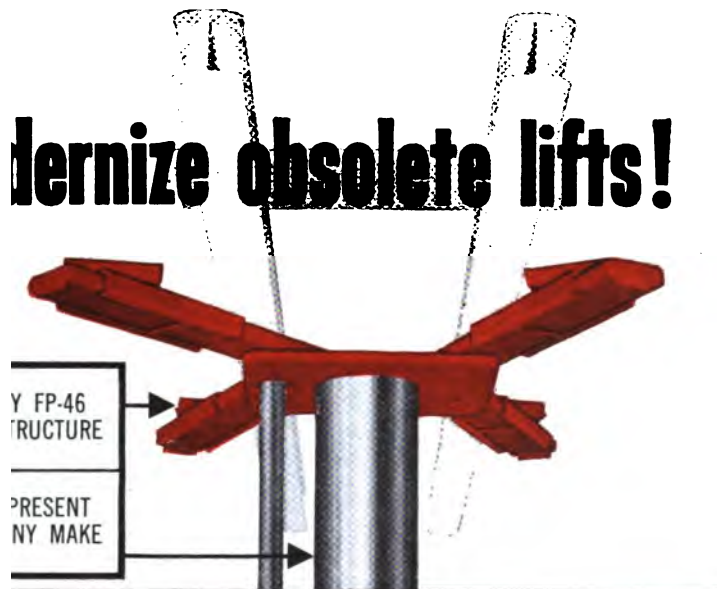
trucks. Twelve units fuel lines from 1/4 to original equipment are included in this

Merit Safety Tags



To help promote frequent exhaust system checks, safety inspection tags are now available from Merit Muffler Div., 619 Smith St., Toledo 1, Ohio. These tags have space provided to check as "O.K." or "bad" the customer's muffler, tailpipe, exhaust pipe, brackets, clamps and gaskets. The tags are then attached to the dashboard or transmission lever. They come in pocket-sized pads of 50.

Modernize obsolete lifts!



Go to frame pick-up superstructure—handle all cars and save up to \$395.00

our old lifts to handle all cars by installing a new FP-46 Frame Lift superstructure. You can use your present jack, and save up to \$395 to the cost of a common lift.

FRAME LIFT—With the FP-46 you are able to handle cars for service, repair and re-

placement jobs that just aren't possible with a Roll-On or Free-Wheel type lift. The FP-46 is today's most versatile lift with a wide range of pick-up adjustments to accommodate all car frame styles. The easily installed conversion superstructure is available for Rotary and other make lifts built since World War II.

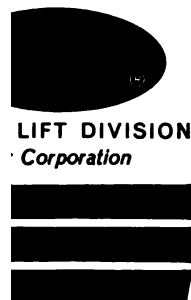
Chicago Rawhide Cabinet



A new oil seal cabinet has been announced by the Service Sales Div., Chicago Rawhide Manufacturing Co., 1301 Elston Ave., Chicago, Ill. It is a completely enclosed cabinet with a fully hinged door and designed to interlock side by side, stack top to bottom, or to hook onto the new C/R oil seal tool racks.

[NEW LITERATURE, PAGE 124]

MAIL COUPON TODAY FOR MORE INFORMATION



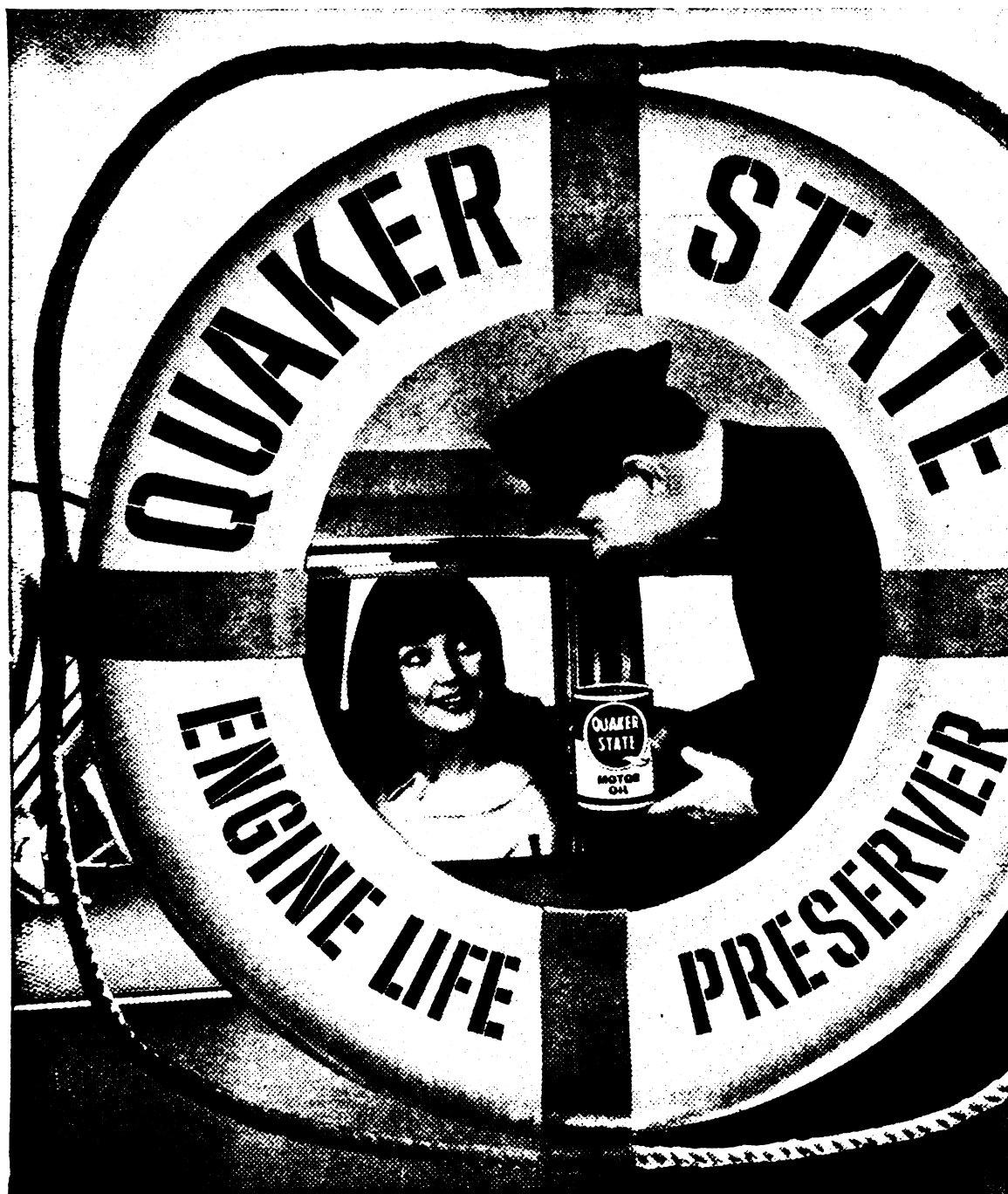
DOVER Dover Corporation, Rotary Lift Division
1109 Kansas, Memphis 2, Tenn.

Please send information on the Rotary FP-46 conversion superstructure.

Name _____

Company _____

Address _____



Sell protection by the quart—
the world's best engine life preserver

The motor oil you sell has two functions—to protect your customers' engines, and to build your business. No other motor oil anywhere does both jobs as well as Quaker State. Super-refined from 100% pure Penn-



sylvania Grade Crude Oil—is the world's best engine life preserver because it brings satisfied customers for other products and service it is unmatched for business-bu

Quaker State Oil Refining Corporation, Oil City, Pennsylvania

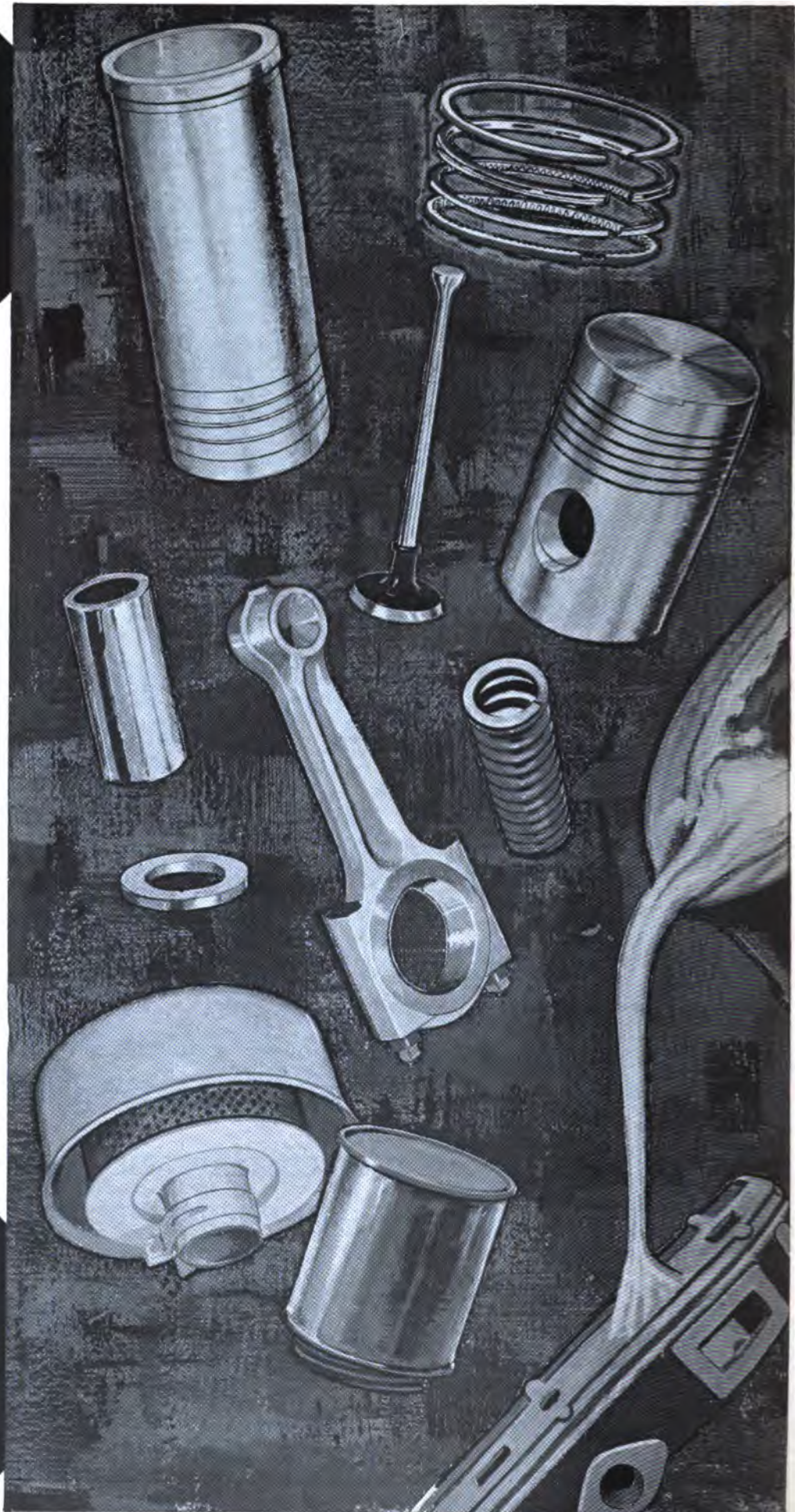
MOTOR, October 1961



Pedrick



WHITE
MACHINE WORKS



*Nation's largest manufacturer of
heavy-duty and specialized engine parts—*

EW GOULD-NATIONAL ENGINE PARTS DIVISION

In creating its new Engine Parts Division, Gould-National combined under one corporate roof the brands, products, services and facilities of these wholly-owned subsidiaries:

Wilkening Manufacturing Co., Philadelphia, manufacturers of Pedrick® piston rings and castings.

White Machine Works, Eau Claire, Wisconsin, manufacturers of Superior-Arrowhead cylinder sleeves, sleeve assemblies, pistons, piston pins, Burd piston rings, valves and valve train parts, foreign car engine parts and filters.

Gillett & Eaton, Lake City, Minnesota, piston and casting specialists of cast iron, aluminum alloy, Vanasil® aluminum alloy pistons and specialized engine parts.

Arrow Head Steel Products, Howell, Michigan, manufacturers of aluminum pistons, connecting rods and other castings.

Now, Gould-National, the nation's largest producer of automotive replacement batteries, is also the nation's largest basic manufacturer of heavy-duty and specialized engine parts. The Division is the largest one stop source for the most complete line of engine parts available from one manufacturer. It is the only engine parts manufacturer with both iron

and aluminum casting and machining facilities.

By utilizing the efforts of one combined sales force, the customer will benefit from greater sales-service efficiency, more concentrated field coverage.

Product improvement will result from the formation of a special team in the Gould-National Engineering and Research staff. It is the Gould-National way of assuring continuing top quality and improved product performance.

New engineering developments, manufacturing and production techniques from all areas within the Division will benefit all customers, no matter what the product may be.

This is the Gould-National Engine Parts Division—the nation's newest parts manufacturing group with over two centuries of combined experience.

Need heavy-duty engine parts? Automotive engine parts? Foreign car engine parts? Parts for such specialized applications as air and refrigeration compressors? Need complete and modern facilities for aluminum and iron castings? If your specifications call for the best of these, if you need them fast and need them right . . . turn to . . .

Superior-Arrowhead and Burd are trademarks of Gould-National Batteries, Inc.



ENGINE PARTS DIVISION

GOULD-NATIONAL BATTERIES, INC.

St. Paul 1, Minnesota

R HIDDEN / SQUEAKS

therstripping . . .
channels . . . trunk
. rubber bumpers
d lacings

a lubricant of super
... and extreme tem-
range to effectively
saks in these trouble

DE is the answer...
greater film strength
ary lubricants. Pro-
ger lasting lubrica-
ubber-to-rubber and
metal surfaces. SIL-
is waterproof . . .
sh out, freeze, gum
Prevents weather-
from freezing, stick-
pulling apart in cold
Performs from 20°
100° above zero.

GLYDE to work for
llent to silence body
a hards, converti-
tation wagons. (Also
brake lubrication.)

GLYDE®
ING COMPOUND
SILICONE



bble-pack tubes;
; 8-oz. cans; 6 and
sols.

er "STANDARD OF THE
INDUSTRY" from
AMERICAN GREASE
STICK COMPANY

Muskegon
Michigan 5G-320

NEW LITERATURE

Booklets • Catalogs • Manuals

FLEET CATALOG—This catalog for commercial and industrial users contains specifications on spark plugs, air filters, gas filters, fuel pumps, oil filters and positive crankcase ventilation systems. AC Spark Plug Div., General Motors Corp., Flint 2, Mich.

LIQUID OXYGEN BOOKLET—This four-page booklet, F-1258, describes the company's large capacity LC-3 oxygen cylinder. Free. Linde Co., Div. of Union Carbide Corp., 270 Park Ave., New York 17, N.Y.

IGNITION CATALOG—This catalog contains a listing of magneto ignition parts. All end-use applications are indexed and cross-referenced to original stock numbers of basic engine manufacturers. Free. Wells Manufacturing Corp., Fond du Lac, Wis.

THERMOSTAT BROCHURE—"Let's Talk Thermostats" explains the operations and importance of thermostats and cooling systems in easy-to-understand language. Among the subjects covered are: How thermostats prevent dangerous overcooling as well as overheating, how to choose the correct thermostat, and tricks of the trade for easy replacement of thermostats. Also included are tips for increasing thermostat sales. Free. Standard-Thomson Corp., 152 Grove St., Waltham 54, Mass.

BRAKE LINING CATALOG—This 1961 supplement covers the latest application information on brake lining requirements for vehicles built during the 1961 model year. Grizzly Brake Div., 168 N. Michigan Ave., Chicago 1, Ill.

MUFFLER CATALOG—This 76-page muffler and pipe catalog illustrates and describes the latest exhaust system information for domestic passenger cars, imports and trucks. It lists muffler, tailpipe, ex-

haust pipe and clamp applications for model years through 1961. Free. McCord Corp., E. Grand Blvd. at Riopelle, Detroit 11, Mich.

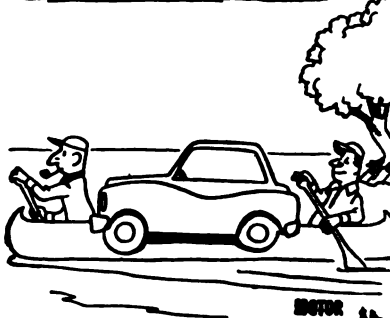
BRAKE PARTS CATALOG—Brake parts catalog No. 262 lists parts for imported cars. United Parts Div., Echlin Manufacturing Co., 1250 W. Van Buren St., Chicago 7, Ill.

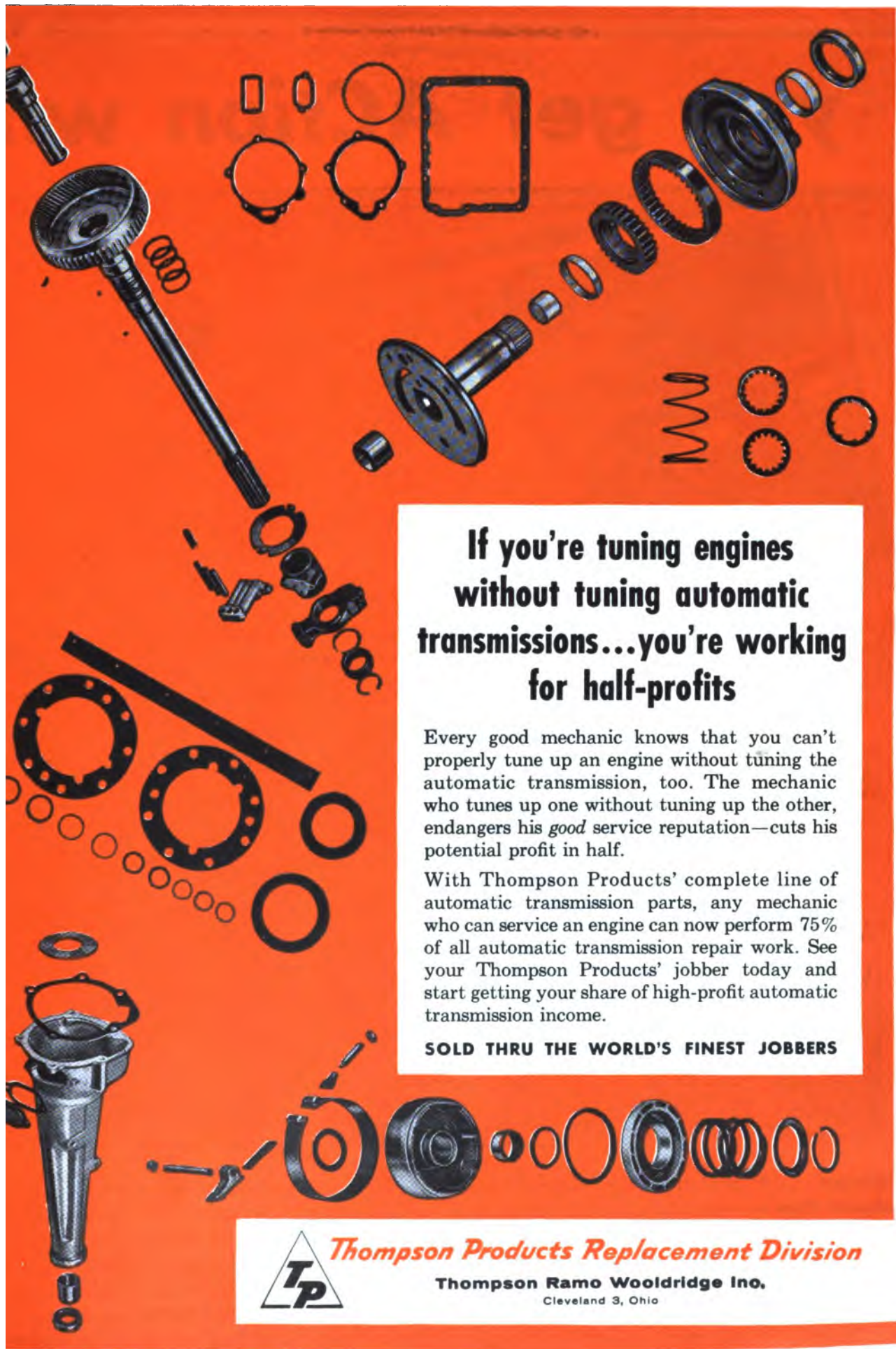
SERVICE CATALOGS—New illustrated catalogs, showing a complete line of radiator and heater hose clamps, radiator, gasoline and oil filler caps, and battery service products are now available. Each catalog shows a complete line of products including illustrations, descriptions and specifications by car and model from 1938 through 1961. Free. Murray Co., Towson 4, Md.

DEALER TRAINING—A 16-page booklet on improving service station management, sales promotion, or training programs. The booklet discusses what leaders in petroleum retailing are doing to improve sales and operational skills at a dealer level. Free. The Dill Manufacturing Co., 700 E. 82d St., Cleveland 3, Ohio.

HAND-OPERATED WINCHES—Illustrated bulletins, C-19 and C-20, describe a new line of "Auto Lock" worm gear hand-operated winches. Both vertical and horizontal mounting methods are diagrammed and drum capacities for cables of various thicknesses and length are given. Free. Thern Machine Co., Winona, Minn.

[CONTINUED ON PAGE 128]





**If you're tuning engines
without tuning automatic
transmissions...you're working
for half-profits**

Every good mechanic knows that you can't properly tune up an engine without tuning the automatic transmission, too. The mechanic who tunes up one without tuning up the other, endangers his *good* service reputation—cuts his potential profit in half.

With Thompson Products' complete line of automatic transmission parts, any mechanic who can service an engine can now perform 75% of all automatic transmission repair work. See your Thompson Products' jobber today and start getting your share of high-profit automatic transmission income.

SOLD THRU THE WORLD'S FINEST JOBBERS



Thompson Products Replacement Division

Thompson Ramo Wooldridge Inc.
Cleveland 3, Ohio

sales-boosting you get ¹ Action with

you get Action with

AC

tune up for Action at your AC dealer's

NATIONAL MAG
Striking full-page ads in magazines like Look, Reader's Digest, and Saturday Evening Post are accompanied by a hard-sell column, directing motorists to your place of business.

WORK TELEVISION
Tuesday at 7:30 (EST) on the ABC-TV network, the popular Laramie show will be bringing television fans the AC story in bright, colorful messages that sell!

LARAMIE

AC

AC

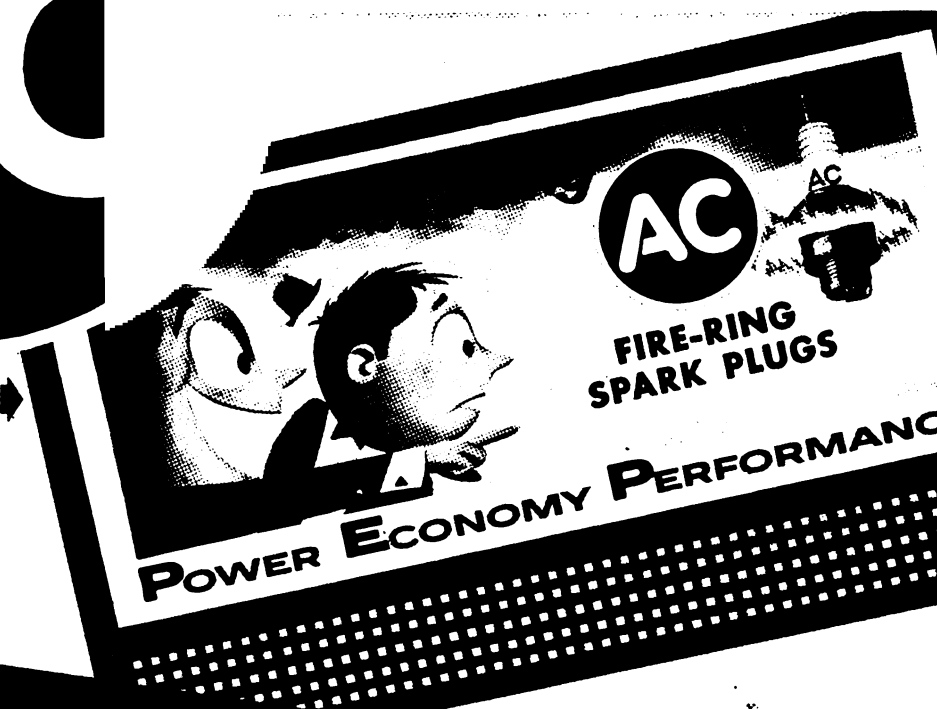
**... Powerful ... Persuasive sales
... that's unmatched in the industry**
... how much, it's how good! That's an advertising
... too often forgotten. AC has not forgotten. During
... year, your sales efforts for AC Quality Products
... backed by advertising and merchandising that's
... for quality as well as volume.

Big, smashing full-page-and-a-column ads in
national magazines ... eye-catching, ear-catching
messages on the highly rated *Laramie* show ...
billboards that punch home the AC "Power-E
Performance" story ... plus hand-tailored campaign
specialized magazines, such as farm and boating pub
... that's AC's national advertising program for



DARDS

the nation, on billboards
d to demand attention,
s will repeatedly be re-
that AC is their best bet for
conomy and performance.



QUALITY PRODUCTS

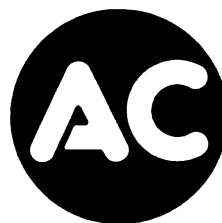
Good advertising won't w
without a good product. The
Fire-Ring Spark Plug—in desi
engineering and performanc
is the finest any motorist can
Other AC products assure
same customer satisfaction.

here are outstanding point-of-purchase merchand-
aids to help you move AC products faster than ever.

role program is designed to do just one thing—bring
ers into your place of business! Join the big swing

Recommend, sell and install AC Quality Products.
eliability is your key to the kind of customer satis-
that means repeat sales.

OTOR, October 1961



**QUALITY
PRODUCT**

AC SPARK PLUG  THE ELECTRONICS DIVISION OF GE

NEW TEMPERATURE Booklets • Catalogs • Manuals

Continued from page 124

TEMPERATURE SENSITIVE TAPES—A color, four-page booklet, which contains information on types of tapes available, how they are constructed and the factors involved in choosing the par-

ticular tape for a specific operation. Free. Johns-Manville, Dutch Brand Div., 22 E. 40th St., New York 16, N.Y.

NEW MAGNETO PARTS CATALOG—Information about the correct magneto ignition parts for outboard, marine, industrial and foreign engines is contained in this new catalog. Divided into five sections, it illustrates Ampco tune-up kits and individual magneto parts. Free. American Motor Products Co., Fond du Lac, Wisc.

CAR APPEARANCE—To dealers sharpen the appeal of their used cars, a new illustrated guide called "Four-Step Treatment to Make Any Car Miles Younger" is available. The guide gives methods for making used cars "look younger and hood and look cared-for inside." Also described are ways to whitewash white walls and the body of the car. Free. Oakite Products Inc., 100 Rector St., New York 6, N.Y.

TUNE-UP CATALOG—A catalog containing replacement data for a line of automotive electric and carburetor replacement parts is offered. This 80-page booklet describes part, part number, application and price. Free. Standard Products Inc., 37-18 No. Blvd., Long Island City 1, N.Y.

ANTIFREEZE SLIDES—A set of 21 color slides, with coordinated variation, has been prepared to show the results of bench dynamometer tests and compression tests for the firm's antifreeze. The slides will be shown to interested parties by company representatives. Carbide Consumer Products Div. of Union Carbide Corp., 100 Park Ave., New York 17, N.Y.

AUTOMOTIVE PARTS CATALOG—Over 1,500 of the common products used on U.S. cars, buses and tractors are shown in this new catalog, designated "A." It contains parts information concerning flexible fuel and oil lines, air and hydraulic brake lines, steel brake lines, etc. A general index makes a handy presentation of the latest up-to-the-minute, on-the-job application. Free. The Waco Head Co., 300 E. 131st St., Cleveland 8, Ohio. Also available: Tune-Up Guide and Ready Reference, TG-402, for most import cars.

CHASSIS PARTS FINDING—A new revised 12-page manual for finding automotive chassis parts and their application is available. This illustrated catalog contains pictures of parts and their applications together with charts and cross-reference parts numbers. Free. McQuay-Norris Manufacturing Co., 2320 Coni Ave., St. Louis 10, Mo.

ARMSTRONG

SERIES "90" RATCHET

The ONLY Ratchet with ALL these important features!

- 1 Slenderized head
- 2 Thumb-operated reversing lever specially designed so it won't come off
- 3 Reversing-lever stop (Ball-and-spring prevents accidental shifting)
- 4 Simple to clean—only tool required is a Phillips screwdriver (wearable parts may be individually replaced)
- 5 Thin handle with knurled grip
- 6 Hole in handle for convenient hanging
- 7 Fine-toothed gear
- 8 Easy ratcheting action
- 9 1/4", 3/8", and 1/2" square drives (two handle lengths in 1/2" drive)

Wearable parts are replaceable; individually, internally, easily. With no teeth cut into handle, it never be replaced. *"ARMSTRONG" on these parts guarantees: advanced design, top quality and use.

heavy duty "50" Series ARMSTRONG ratchets (right) in 1", 3/4", 1/2" and 3/8" square drive sizes. General Catalog 700, gives complete information on and approximately 5500 other ARMSTRONG tools. Local ARMSTRONG Distributors will supply you and demonstrate the new ratchets. If you now who he is, write us for his name.

ARMSTRONG BROS. TOOL CO.
5260 W. ARMSTRONG AVE. • CHICAGO 46, ILLINOIS

EXTRA HEAVY DUTY RATCHETS
SOCKETS
WRENCHES
WRENCH SETS

OUR BEST HELPER IN BUILDING RAKE BUSINESS

GRIZZLY DD SILVERTIP BRAKE LINING



- Three generations of auto service men have built their brake business on the Grizzly brand.
- Constant research and rigid quality control in one of America's largest brake lining manufacturing centers assure top performing quality in every lining.
- Powerful promotion gives Grizzly DD Silvertip real meaning with the motoring public . . . profit building confidence to the men who sell and install it.

DD SILVERTIP—the leader of the durable top quality GRIZZLY brake lining brands that also include SAFTIBOND and SYNCRO.



The only brake lining with the coveted Scientific Control Laboratories Seal of Approval.



DD
**SILVERTIP
GRIZZLY**

BRAKE DIVISION

168 N. Michigan, Chicago 1, Illinois

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CASH-IN ON FAST LUBE SERVICE! If your lube
mine with Alemite Strato-Line Lubrication Equipment
other pumps give you such instant power — with no tir



ry low-profit area, turn in
bor costs . . . get faster to
gun hits the fitting.

MOTOR.

Mercedes Conve

New Mercedes-Benz 220 SE convertible is similar in styling to hard-top announced earlier this year. With fuel injection, 134 cu. in. engine develops 134 hp. Power brakes, with discs at front and drums in rear, are standard.



Automatic transmission is optional on new 220 SE model

Something's miss from this picture....but not this picture

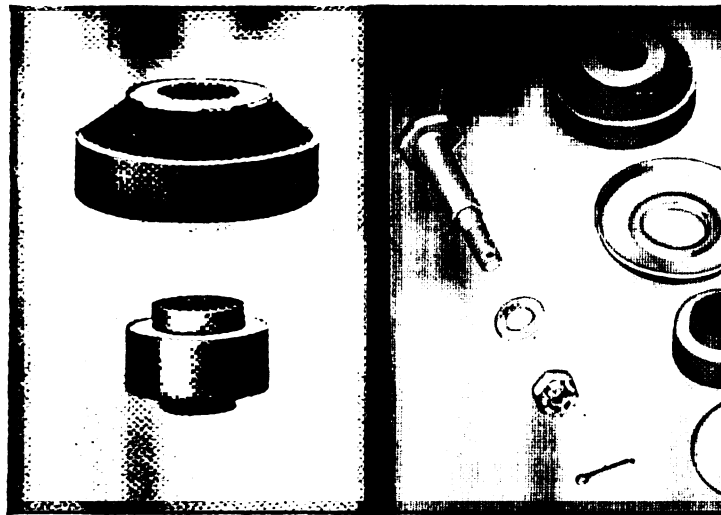


Photo shows the old way of buying motor mounts—without the fittings.

Photo shows the new way of buying with all the fittings for time saving

NEW! improved plan combines MOTOR MOUNT with Assembly Kits

Next time you buy motor mounts—play it cool.

Buy the matching Assembly Kits. Doan now offers necessary fittings—bolts, nuts, washers, everything to motor mounts. Don't buy one without the other. The small compared to the savings in time.



DOAN MANUFACTUR

A DIVISION OF ANCHOR INDUSTRIES, INC

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166

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DAVID R. C.
truck market
JAMES W.
nomic Analyst
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J. C. MARI
service man.
WARDS to tr
GMC Truck

ROBERT K.
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P. F. LOREN,
sales manager

O. F. YANDS
sales manager
Div., Ford M

FRANK M.
general sale
Motors, Inc.

WILLIAM L.
dising manag
Studebaker-Pa

RICHARD B.
sales administr
Inc.

Canadian D

The Federa
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in Montreal la
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Bear, Toronto.

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A guest spea
Bury, Philadel
and a freque
MOTOR Mag:

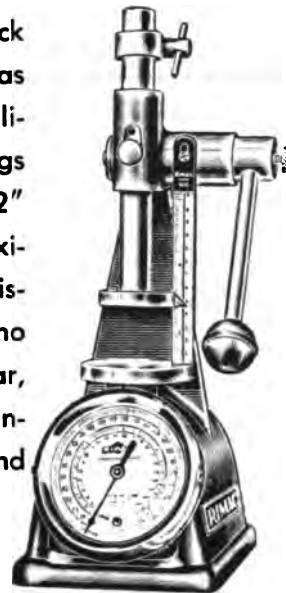
RIMAC

SPRING
TESTERS



***NOW** designed to check late model engine springs as well as older . . . Will facilitate balancing of any springs (valve or clutch) up to 2" diam. — 4½" length; maximum strength 350 lbs. Indispensable to mechanics who service and overhaul car, truck, bus and farm machinery. See both length and tension at a glance.

* ASK YOUR JOBBER OR
WRITE FOR LITERATURE



RINCK-McILWAINE, INC.
16 HUDSON STREET • NEW YORK, N. Y.

**NOW...You Can Own the
BEST Tire Changer**
for about **50¢** per day

**Bishman FULL
POWER, Air-Electric
TIRE CHANGER**

AIR POWER double bead breaker breaks both beads and drops them into the center well with one stroke.

ELECTRIC POWER mount-de-mount tool lifts the tightest beads off and slips them on with a touch of the foot control pedal.

PORTABLE. No permanent air or electric connections required. Built-on wheels let you roll it anyplace. Handles all wheels AND rims from 12" through 17 ½". **BISHMAN #880-61, Full Power Tire Changer.** Trade in your old tire changer—**NO CASH** needed in most cases. See Your Jobber.

Other Bishman Tire Changers are available in practically any combination of manual, air and electric operation with prices **STARTING AT \$109.50.**

Bishman MANUFACTURING CO. ROUTE 2, OSSEO, MINNESOTA



WORLD'S LARGEST MANUFACTURER OF ELECTRIC TIRE CHANGERS

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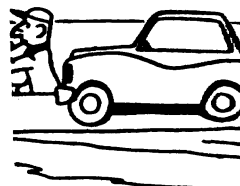
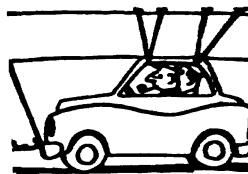
haust pipe and clamps
for model years through
McCord Corp., E. G.
Riopelle, Detroit 17, Mich.

BRAKE PARTS
Brake parts catalog
parts for imported
Parts Div., Echlin M.
Co., 1250 W. Van Buren
Chicago 7, Ill.

SERVICE CATALOG
Illustrated catalogs, show
complete line of radiator
hose clamps, radiator
oil filler caps, and hose
products are now available
catalog shows a complete
products including
descriptions and specifications
and model from 1950 to
1961. Free. Murray Co.
Md.

DEALER TRAINING
Booklet on improving
sales management, sales
training programs.
discusses what leaders in
retailing are doing to im-
prove and operational skills
developed. Free. The Dill
Company, 700 E. 82d St.,
Chicago, Ohio.

AND-OPERATED
Illustrated bulletins,
(1) describe a new line
"back" worm gear ha-
nd cranks. Both vertical
and horizontal mounting meth-
ods. Flanged and drum cap-
acities of various thick-
nesses are given. Free.
The Line Co., Winona, Minn.
[CONTINUED]



MOTOR

RIMAC

SPRING
TESTERS



***NOW** designed to check late model engine springs as well as older . . . Will facilitate balancing of any springs (valve or clutch) up to 2" diam. — 4½" length; maximum strength 350 lbs. Indispensable to mechanics who service and overhaul car, truck, bus and farm machinery. See both length and tension at a glance.

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RINCK-McILWAINE, INC.
16 HUDSON STREET NEW YORK, N. Y.

**NOW...You Can Own the
BEST Tire Changer
for about 50¢ per day**

**Bishman FULL
POWER, Air-Electric
TIRE CHANGER**

AIR POWER double bead breaker breaks both beads and drops them into the center well with one stroke.

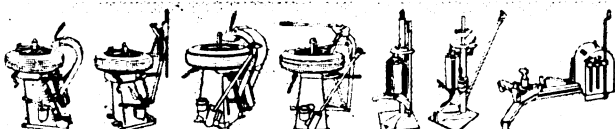
ELECTRIC POWER mount-dismount tool lifts the tightest beads off and slips them on with a touch of the foot control pedal.

PORTABLE. No permanent air or electric connections required. Built-on wheels let you roll it anyplace. Handles all wheels AND rims from 12" through 17½". BISHMAN #880-61, Full Power Tire Changer.

Trade in your old tire changer—NO CASH needed in most cases. See Your Jobber.

Other Bishman Tire Changers are available in practically any combination of manual, air and electric operation with prices STARTING AT \$109.50.

Bishman MANUFACTURING CO. ROUTE 2, OSSEO, MINNESOTA



WORLD'S LARGEST MANUFACTURER OF ELECTRIC TIRE CHANGERS

U.S. Vehicle Sales

January-July, 1961-60

As counted by R. L. Polk and Co.*

Passenger Cars

	Position		Total Retail Sales for First 7 Months		Per Cent of Grand Total of Retail Sales	
	1961	1960	1961	1960	1961	1960
GENERAL MOTORS			1,552,002	1,722,207	49.6	47.3
Chevrolet	1	1	920,321	1,034,959	29.4	28.4
Pontiac	3	5	208,765	240,861	6.7	6.6
Oldsmobile	5	7	177,611	204,468	5.7	5.6
Buick	7	8	163,304	154,672	5.2	4.3
Cadillac	10	10	82,001	87,247	2.6	2.4
FORD			960,346	1,009,424	30.7	27.7
Ford	2	2	767,909	834,034	24.6	22.9
Comet	9	11	106,281	69,461	3.4	1.9
Mercury	11	9	69,248	92,752	2.2	2.5
Lincoln	14	14	16,908	13,177	0.5	0.4
CHRYSLER			363,530	562,765	11.6	15.4
Plymouth	6	3	173,744	277,869	5.5	7.6
Dodge	8	6	131,544	228,310	4.2	6.3
Chrysler	12	13	52,075	47,162	1.7	1.3
Imperial	15	15	6,167	9,424	0.2	0.2
AMERICAN MOTORS			205,686	258,523	6.6	7.1
Rambler	4	4	205,686	258,523	6.6	7.1
STUDEBAKER	13	12	40,881	67,850	1.3	1.9
Miscellaneous			4,857	22,685	0.2	0.6
TOTAL			3,127,302	3,643,454		

Trucks

	Total Retail Sales for First 7 Months		Per Cent of Grand Total of Retail Sales	
	1961	1960	1961	1960
CHEVROLET	173,950	193,362	34.7	33.9
FORD	165,553	170,285	33.1	29.8
INT. HARVESTER	61,243	67,644	12.2	11.9
GMC	38,551	48,666	7.7	8.5
DODGE	23,037	25,777	4.6	4.5
WILLYS	15,782	16,754	3.2	2.9
Truck	9,801	10,976	2.0	1.9
Jeep	5,981	5,778	1.2	1.0
WHITE	7,764	9,468	1.6	1.7
MACK	5,148	6,949	1.0	1.2
STUDEBAKER	3,301	3,016	0.7	0.5
DIAMOND T	1,085	1,639	0.2	0.3
BROCKWAY	523	699	0.1	0.1
Miscellaneous (Domestic and Foreign)	4,745	26,868	0.9	4.7
TOTAL	500,682	571,127		

*Connecticut figures for April-July, 1961, not included

Every Fourth Truck on Farm

According to the Automobile Manufacturers Assn.'s 1961 edition of "Motor Truck Facts," one-fourth of the nation's trucks—2,800,000—are on farms. Also, there are 57,000 truck fleets of 10 or more units each and truck trailers in use last year numbered 1,110,000.

Imported Vehicle Sales

10 Leading Makes

January-July, 1961-60

As counted by R. L. Polk and Co.*

1961		1960	
Volkswagen	103,159	Volkswagen	88,294
Renault	23,800	Renault	44,032
Fiat	7,495	Opel	17,819
Mercedes Benz	6,897	English Ford	17,327
English Ford	6,662	Fiat	13,972
Volvo	6,022	Triumph	10,798
Triumph	6,301	Austin Healey	10,627
Austin Healey	5,405	Simca	9,725
Opel	5,311	M. G.	8,715
Metropolitan	5,288	Mercedes Benz	8,233
All others (68 makes)	45,669	All others (66 makes)	79,808
TOTAL	222,009	TOTAL	309,350

*Connecticut figures for April-July, 1961, not included

U.S. Has 3,500,000 Miles of Roads

According to the 1961 edition of "Statistical Abstract of the United States," published by Bureau of the Census, U.S. Dept. of Commerce, there are 3,500,000 miles of roads in the nation.

Total debt outstanding for public highways in 1960 was \$13,400,000,000, of which states owed \$9,500,000,000, counties and rural road districts \$1,200,000,000 and municipalities \$2,700,000,000.

Other statistics published in the report are: Total motor fuel consumption in 1959 was 62,200,000,000 gal., average miles per gallon for passenger cars was 14.3, premiums written for automobile insurance in 1959 amounted to nearly \$6,100,000,000 and losses paid amounted to about \$3,500,000,000.

Can You Name It?



Even in the roaring '20's, engineers were trying to eliminate periodic chassis lubrication. This car used the one-shot system, in which a central reservoir was connected by copper tubing to 25 points in the chassis and engine accessories. When the driver pushed a pedal on the floor, lubricant was supplied to the various locations. Can you identify this 6 cyl., 60 hp model? Answer is on page 162.



the uncommon motor oil!

Motorists who *care* for their cars . . . and servicemen who *care* for their customers . . . agree that WOLF'S HEAD Oil is truly the finest of the fine. There's a reason—WOLF'S HEAD is 100% Pure Pennsylvania, Tri-Ex refined three important *extra* steps and scientifically fortified for the finest engine protection. The result is *uncommon* lubrication . . . *uncommonly* low operating and upkeep costs . . . truly *uncommon* quality. That's why motorists who *care* for their cars always insist on WOLF'S HEAD . . . the motor oil that commands *uncommon* customer loyalty the country over.

WOLF'S HEAD OIL REFINING CO.
OIL CITY, PA.

Cleaning Is Comeback Insurance

continued from page 41

tamination of cleaning solution.

While a customer should be favorably impressed with the appearance of his engine after it has been cleaned, cleanliness inside the engine or transmission, where he can't see it, has greater practical importance. The newer engines not only cram more cubic inches into smaller over-all dimensions,

but also develop much more horsepower per cubic inch than older powerplants.

Because bearing area is limited, bearing loads are higher. Modern main and rod bearings have excellent load-carrying capacity, but in some cases the hard, thin top layer does not permit small particles to embed themselves in the bearing surface. With no place to go, these particles lodge between the bearing and shaft, breaking through the oil film and scoring the shaft.

High pressure also develops at

the contact area between camshaft and valve lifter. Any penetration of the lubricant film by dirt at this point can quickly produce what engineers call "catastrophic wear" or, in simpler terms, a badly scuffed valve lifter or worn-down cam lobe.

While a steam cleaner or pressure sprayer can be used to clean parts after tear-down, a dip tank is more economical, since it frees the repairman for other work while the parts are soaking. Submerging the parts in cleaning solution also assures penetration of hidden crevices.

A simple cold tank can be used when volume is low and time is not a critical factor. Solution at room temperature will usually do an effective job, if parts can be left in the tank for several hours. Whenever possible, it is a good idea to let them soak overnight.

Agitation Required

For faster cleaning, some form of agitation is necessary. In some tanks, cleaning solution is pumped through spray nozzles surrounding the work and allowed to drain back into the tank. In others, the parts are submerged and the solution agitated by compressed air or built-in propellers. Still another effective method is to agitate the parts in the cleaning fluid. Parts are placed on a movable mesh platform or in wire baskets and agitated mechanically.

Heat also helps to speed up the cleaning process. When there is no mechanical agitation, heat currents provide some movement of the solution around the work. With or without mechanical agitation, heat accelerates the chemical action of the cleaner.

Vaporizes Solvents

Heat is also used to vaporize certain solvents. The solution is heated until it reaches its boiling point, which is considerably above that of water. The vapor, heavier than air, remains in the tank. When the parts are placed in the tank, vapor condenses on their surfaces, forming droplets of liquid solvent to dissolve oil and grease. When the metal parts reach the approximate temperature of the solvent, condensation ceases and parts are removed clean and dry.

The newest method of parts



FOR FASTER, EASIER AND TIGHTER CLAMPING

Service Stations • Garages • Dealers

This new Series H clamp is available in Sure-Tite Merchandising Power-Paks, Com-Paks and Service-Paks. Get complete details from your jobber.

WITTEK manufacturing co.

4311 West 24th Place, Chicago 23, Illinois

CLAMPS
for Every
Application



1001

makes it easier for the
to switch from a dirt
placement job to a car
haul without disaster.

As with all work done
today, the cost of even
big item. When consid-
ing methods, it should
bered that the first
equipment is only part
the cost of solvents, de-
fuel for heating, if need
also be considered.

The purchase price of
ing cost of the equipment
balanced against the
in shop labor. In a shop
considerable volume of
more expensive service
cheaper in the long run
equipment which costs
quires excessive mainte-

Service Sales

Some repairshops find
way to recover at least
expense. Owners who
maintaining their cars
dition can readily be
advantages of better
and reduced fire hazard
engine. Oil or water
er to spot and can be
fore serious damage.

In the dealer shop, ser-
ing is often included in
used-car reconditioning.
ent repairshops and ser-
can pick up additional
performing the same
used car dealers.

THE END. NOW TURN BACK



"Actually the cars are
radical changes. They
using the same old x-

MOTOR

Sensible Pricing Can Help Dealer Profits

continued from page 143

car retailers kiss profits good-by.

Enter the road man. "Look," he coaxes, "you've been netting \$150 a car. You've reached your break-even point. Why not cut prices and sell more merchandise?"

This sounds reasonable enough. Why not reduce prices and maybe give the competition some trouble in the bargain?

It doesn't work the couple of reasons. First, the man puts the same price on the competition. Second, important, even though he has attained his short-term target, he has yet to clear for himself. The \$150 earned is to offset expenses of his investment. It is not money.

Following the fact that the dealer does not move until after he has achieved his objective. And he will



**BEST
FOR
ALL
TYPES
OF
ENGINES**

RIDGE REAMER

Model SR-9

Lisle's finest lathe-action Ridge Reamer designed for **angle-block** and short stroke as well as conventional engines. Handles cylinders from 3" to 5".



The SR-9 gets all the ridge in

Model S

The famous "Sweet" type ridge reamer. It works perfectly in all engines. Same big size to 5".

The tungsten-carbide used in both the SR-9 will stay sharp indefinitely.

ASK YOUR J



Lisle



LISLE CORPORATION • TOOL DIVISION • CLARK

to draw a bead on that target after the new car department paid off its share of the cost.

Like the factory, the dealer should have his sights fixed on a profit goal far in advance of the time he reaches the break-even point, because it is this second goal that dictates the prices he asks of buyers to realize his profit. At this juncture he may be in a position to reduce prices, or he may have to continue to try to bring them near full list. If planned properly, he should find it necessary to ask higher prices at this point. He can't, of course, but he isn't likely to.

Follow Similar Pattern

Many dealers already are following a pricing policy similar to the one outlined in the formula, except that car dealers seldom plan down to the level of the factory as do manufacturers. In any case, why are dealer prices so pallid?

The answer is obvious. Dealers permit themselves to be tricked or cajoled into giving up their profit objective at the moment they get short of the goal line. As the dealer reaches a point where he stands to turn a deal on himself, factory, customers and competitors, he gets into a tussle among the competitors. At this time it's time to discount to the detriment of the profit statement, most dealers are prone to the suggestion.

There is nothing wrong with discounting, but the surgeon should operate in Detroit, not at the level. If Detroit prices are in line, January as in October, could dealer prices differ?

IF END. NOW TURN BACK TO

Colorado Dealers Elect Holloway

At the 28th convention of the Colorado Automobile Dealers' Association, Hayes Holloway, Sr., of Denver, was elected president, succeeding Ed Eisenhower. George W. A. Wills, Jr., of Colorado Springs, was named vice president. Harold Koonce, Eagle, and Carl Bartz, Denver, were named directors. The Walter B. Cooper Award was presented to Raymond Buick-Rambler, of Mr. Colorado Dealer.

Sensible Pricing Can Help Dealer Profits

continued from page 143

car retailers kiss profits good-by.

Enter the road man. "Look," he coaxes, "you've been netting \$150 a car. You've reached your break-even point. Why not cut prices and sell more merchandise?"

This sounds reasonable enough. Why not reduce prices and maybe give the competition some trouble in the bargain?

It doesn't work that way for a couple of reasons. First, the road man puts the same suggestion to the competition. Second, and more important, even though the dealer has attained his standard volume target, he has yet to clear \$1 profit for himself. The \$12,000 he has earned is to offset expenses, recoup his investment. It is not take-home money.

Following the factory formula, the dealer does not reduce prices until after he has achieved his profit objective. And he will not begin

to draw a bead on that target until after the new car department has paid off its share of the overhead.

Like the factory, the dealer should have his sights fixed on a profit goal far in advance of the time he reaches the break-even level, because it is this secondary target that dictates the prices he must ask of buyers to realize his profit goal. At this juncture he may be in a position to reduce prices, or he may have to continue to try for something near full list. If he has planned properly, he should not find it necessary to ask higher prices at this point. He can ask, of course, but he isn't likely to get it.


Follow Similar Policy

Many dealers already follow a pricing policy similar to this formula, except that car merchants seldom plan down to the last decimal as do manufacturers. This being the case, why are dealer profits so pallid?

The answer is obvious. Dealers permit themselves to be hustled, panicked or cajoled into abandoning their profit objectives a few feet short of the goal line. Just as the dealer reaches a point where he stands to turn a dollar for himself, factory, customers and the cut-ups among the competition suggest it's time to discount. And, to the detriment of the profit and loss statement, most dealers are receptive to the suggestion.

There is nothing wrong with discounting, but the surgery should start in Detroit, not at the retail level. If Detroit prices are the same in January as in October, why should dealer prices differ?

THE END. NOW TURN BACK TO PAGE 40

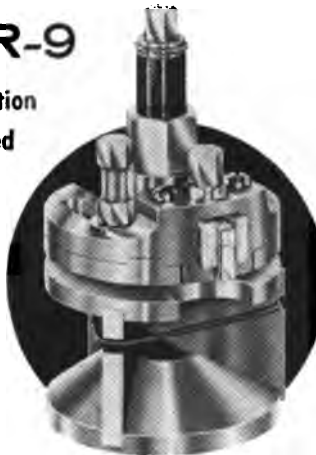


RIDGE REAMERS

BEST
FOR
ALL
TYPES
OF
ENGINES

Model SR-9


Lisle's finest lathe-action Ridge Reamer designed for angle-block and short stroke as well as conventional engines. Handles cylinders from 3" to 5".



BEST
FOR
ALL
TYPES
OF
ENGINES

Model SR-16

The famous "Sweet 16" Scraper-type ridge reamer. Engineered to work perfectly in all types of engines. Same big range — 3" to 5".







BEST
FOR
ALL
TYPES
OF
ENGINES

The tungsten-carbide cutters used in both the SR-9 and SR-16 will stay sharp indefinitely.

BEST
FOR
ALL
TYPES
OF
ENGINES

ASK YOUR JOBBER



LISLE CORPORATION • TOOL DIVISION • CLARINDA, IOWA

Colorado Dealers Elect Holloway

At the 28th convention of the Colorado Automobile Dealers Assn., Hayes Holloway, Sr., Sterling, was elected president, succeeding Ed Eisenhauer, Grand Junction. W. A. Wills, Jr., Colorado Springs, was named vice president, Harold Koonce, Eagle, secretary, and Carl Bartz, Denver, treasurer.

The Walter B. Cooper Memorial Award was presented to Al Will, Longmont Buick-Rambler dealer, as Mr. Colorado Dealer of 1961.



"Our sales increased by 170,000 gallons last year, giving us a total of 1,536,000," says Melvin Moritz, National Petroleum Products Co., Wentzville and Troy, Missouri. "In 20 years' association with Texaco we've enjoyed a growth. And Texaco is really jobber-minded—helps many ways. We know it pays to sell the best...TEXACO"

6 reasons why you can grow with Texaco

1. The best retailer policy — Texaco helps its Dealers. 22,502 Dealers have been with us for more than 10 years.
2. Texaco is jobber-minded. *Proof:* 842 Consignees and Distributors have been with us over 20 years, some over 45 years.
3. The best opportunity to cash in on "touring" business—because when Texaco customers are touring they stop at Texaco stations.
4. The best customer credit card—in fact, the only petroleum

credit card honored under one sign in all 50 states, and in Canada, too.

5. The best national advertising program, year after year...constantly selling Texaco Products and Dealer service. The best sales promotional material to help build customers.

6. The best petroleum products, known and accepted nation-wide. Continuous research and development insure that Texaco will always have outstanding products.

TUNE IN TO THE HUNTLEY-BRI
REPORT, MONDAY THRU FRIDAY, N

SALES MANAGER, TEXACO INC.
135 EAST 42nd STREET, NEW YORK 17, N. Y.

I would like to get complete information about
sibility of teaming up with Texaco as a ☐ Di
☐ Consignee ☐ Dealer. Some investment is

NAME _____

STREET _____

CITY _____

STATE _____

PHONE _____

-----**TEXACO**



Repair Stripped Threads ...even in Aluminum

FOR MORE SERVICE PROFITS!

Make thread repairs in minutes, for only pennies per hole. Use **HELI-COIL®** Stainless Steel Wire Screw Thread Inserts to restore threads to original dimensions... no need to change screw sizes! Permanently prevent wear, stripping, corrosion, galling and seizing. Provide lifetime protection to tapped holes in all metals... even in aluminum, magnesium and other light materials.

HELI-COIL EZY-KITS contain individual **EZY-PACKS** of inserts in selected sizes, plus installation tools. Popular combinations for all car and truck engines, in all thread series and sizes. MM sizes in all reaches for spark plug ports, and inserts for taper pipe threads also available.

For descriptive literature, including Metric and Whitworth Thread Conversion, and name of your **HELI-COIL** jobber, write... **2848A**



HELI-COIL CORPORATION

4610 Shelter Rock Lane, Danbury, Conn.

In Canada: **ARMSTRONG BEVERLEY ENGINEERING LTD.**
6975 Jeanne Mance St., Montreal 15, Que.

Fitzgerald Gaskets

have the
answer!

FOR
Replacement

FUSED
ALUMINUM

STEEL
AND
ASBESTOS
GASKETS

WITH
proved
SEALABILITY

...and the
added extra
Craftsmanship

The Fitzgerald Manufacturing Co.
Torrington, Connecticut

Chicago Los Angeles Toronto

10-Wheel Amphibian



developed Nobel-Amphibian
ter or on rough ground
engine powers 16 of its wheels
its own production

's Thinking

e 41

y and all avenues of distribution
l with Ford.)
nd, Ford-made merchandise
es less service than cars
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parts and service business
established outlets (dealers
s) increase aftermarket work
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needs if it is to beef up the
iness is more non-Ford.

like Look-Alikes

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merchants resent the over-
of styling themes by one
factory no sooner hits the
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lt, dealers complain, is a
nakes, depriving the retailer
merchandise.

y Buyers Doubt

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; the August-September ad-
cials on the same station
n theme: "We're overbur-
ce."

Compact Market?

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during the cleanup of
out of conventional cars
lar reported a near sel-
r companion cars, altho-
cally across the board.
is interesting because
well during the old mod-



**Repair Stripped Threads
...even in Aluminum**

FOR MORE SERVICE PROFITS!

Make thread repairs in minutes, for only pennies per hole. Use **HELI-COIL®** Stainless Steel Wire Screw Thread Inserts to restore threads to original dimensions... no need to change screw sizes! Permanently prevent wear, stripping, corrosion, galling and seizing. Provide lifetime protection to tapped holes in all metals... even in aluminum, magnesium and other light materials.

HELI-COIL EZY-KITS contain individual EZY-PACKS of inserts in selected sizes, plus installation tools. Popular combinations for all car and truck engines, in all thread series and sizes. MM sizes in all reaches for spark plug ports, and inserts for taper pipe threads also available.

For descriptive literature, including Metric and Whitworth Thread Conversion, and name of your **HELI-COIL** jobber, write...

2848A



HELI-COIL CORPORATION

4410 Shelter Rock Lane, Danbury, Conn.

In Canada: **ARMSTRONG BEVERLEY ENGINEERING LTD.**
6975 Jeanne Mance St., Montreal 16, Que.

Fitzgerald Gaskets

have the answer!

FOR Replacement

FUSED ALUMINUM

STEEL AND ASBESTOS GASKETS

WITH proved SEALABILITY

...and the added extra Craftsmanship

The Fitzgerald Manufacturing Co.
Torrington, Connecticut
Chicago Los Angeles Toronto

New 20-Wheel Amphibian



This Norway-developed Nobel-Amphibil, can operate in water or on rough ground. A Volkswagen engine powers 16 of its wheels. British interests own production rights

What Detroit Is Thinking

continued from page 41

stance to cover any and all avenues of distribution not now connected with Ford.)

On the one hand, Ford-made merchandise lasts longer and requires less service than counterpart items of a few years ago. On the other hand, Ford is fighting for more parts and service business.

How can your established outlets (dealers handling Ford products) increase aftermarket volume if they get fewer cracks at customers?

Obviously, one development cancels out the other. Hence what Ford needs if it is to beef up its parts and accessories business is more non-Ford outlets to push its products.

Dislike Look-Alikes

Although dealers are generally happy with their new wares, many merchants resent the ever-increasing "cannibalizing" of styling themes by competing car companies. One factory no sooner hits on a styling idea that connects with the public than a dozen others copy it. Result, dealers complain, is a too-close similarity between makes, depriving the retailer of an exclusive feature to merchandise.

Why Buyers Doubt

Why customers question the advertising claims of dealers: Radio newscasts, many of them sponsored by car retailers, carried reports of alleged shortages of 1961 models during the August-September cleanup. But dealer commercials on the same stations were pitched to a bargain theme: "We're overloaded, so name your own price."

Bigger Compact Market?

On average, dealers turned substantially higher profits on compacts during the cleanup than they were able to nurse out of conventional cars. B-O-P retailers in particular reported a near sellout at close to list of their companion cars, although the trend applied practically across the board.

The development is interesting because some of the lines that sold so well during the old model mop-

up were stagnant earlier. Detroit marketing departments believe the pickup portends a still wider market for compacts in the 1962 model year.

More Dream Cars

The so-called dream car, always a big attraction with the public, despite the fact that most people are wise to the idea that the cars are a publicity device and not necessarily a forerunner of future trends, may be on the way back after an absence of several years. A couple of companies are working on new jobs for showing next year.

Reading Their Own Words

A car maker who sends the editor of his plant's house organ around to interview reporters at the firm's new model press preview is in for a surprise when he reads this month's issue of his magazine. Most newsmen don't take kindly to being quoted in car company house organs, because it puts them in the position of endorsing one product while apparently knocking other makes.

But what do you say when a factory man asks, "How do you like the new cars?" It is easy enough to get off the hook with a non-committal compliment if the reporter's reply is not going to appear in print, but how does he answer when the company wants to quote him?

A wag on the preview beat solved the problem by memorizing the superlatives in the company's ads. When the house organ man asked his stock question, said wag rolled off phrases like "crisply dynamic styling," "massive sensuousness," "tumultuous symmetry" and the like.

"Great stuff!" the house organ man exclaimed, taking it down verbatim.

THE END. NOW TURN BACK TO PAGE 42

Lube Oil and Grease Sales Up

Lubricating oil and grease sales totaled 56,597,197 barrels in 1960, an increase of almost 3,000,000 barrels or 5.4 per cent over sales in 1958, the year of the preceding survey. These figures were reported in a survey prepared by U.S. Bureau of Census. Most of the increase is comprised of sale of industrial lubricating oil, which rose more than 2,000,000 barrels. Automotive lube oil sales rose less than 1 per cent.

MILLIONS

The **POST**

Nationally Advertised
BEAR SIGN . . . Another
Reason Why, You make
more money with BEAR.
Write for Catalog.

Bear Mfg. Co., Dept. M-9, Rock Island, Ill.

LOOK for this SIGN

ON SERVICE SHOPS,
HIGHWAYS, NEWSPAPERS,
TELEVISION AND IN YOUR
CLASSIFIED TELEPHONE
DIRECTORY . . .

under these headings:

- AUTOMOBILE REPAIRING
- WHEEL ALIGNING
- WHEEL BALANCING
- BRAKE SERVICE
- HEADLIGHT TESTS
- AUTO WHEEL, AXLE,
FRAME STRAIGHTENING

BEAR
SAFETY SERVICE

WHEEL ALIGNMENT & BALANCING
FRAME & AXLE STRAIGHTENING
HEADLIGHT & BRAKE TESTING

don't divide your income with lost time



protect your profits with a

Lathem

PAYROLL and JOB TIME RECORDER

Consider the ways that time on the job can be wasted . . . can run up even higher your cost of doing business. For instance . . . too much delay between jobs . . . too much time on each job . . . excessive tardiness.

To correct these abuses, you need to know where they occur. And that's where a Lathem Time Recorder can do a job for you. It gives you an accurate record of the time each job is started and completed . . . when each employee arrives and leaves work. Every loss of time stands out . . . ready for you to eliminate for a better profit picture.

Mail the coupon today for complete information, prices and sample payroll and job cards.

LATHEM TIME RECORDER CO.

82 Third Street, N. W., Atlanta, Georgia

Gentlemen: Without obligation, please send me complete information, including prices, about the Lathem Payroll and Job Time Recorder.

NAME

COMPANY

STREET

CITY ZONE STATE

401 In. V-8 Standard on Buick

continued from page 53

now rectangular, and the bumper is a one-piece type.

Included in interior changes are an instrument cluster with a swing-needle type speedometer and a new straight-line instrument panel cover. A smaller, 16 in. steering wheel makes it easier to enter and leave the driver's seat, and to see the instruments. Tunnel height has been

reduced by moving the engine forward 4 in. Heater and defroster are standard.

A new 6 cyl. compressor with magnetic clutch is now used in the optional air conditioning system. A suction throttling valve replaces the hot-gas bypass valve to control temperature. For 1962, all push-button radios will be transistorized.

The 364 cu. in. engine is discontinued for 1962 and the LeSabre, like the Invicta and Electra 225, will be powered by the 401 cu. in. V-8. On the LeSabre, a large ven-

turi, two-barrel carburetor is standard but a four-barrel carburetor is optional. The four-barrel is standard on the Invicta and Electra V-8. On the LeSabre, breathing capacity is improved by enlarging the cross section of the intake manifold. A 10.25-to-1 compression ratio is standard; an optional engine has 9.0-to-1 ratio to permit the use of regular fuel.

On the Invicta and Electra 225, a new camshaft in the 401 cu. in. engine is said to give a smoother and quieter idle. In addition, the water pump, fan pulley and fan spacer have been redesigned. The new pump and fan spacer are shortened, and the offset on the pulley is reduced to give added stiffness and increase the rigidity of these parts.

Frame Wider in Front

The front section of the Buick frame is substantially wider than in 1961 to permit the engine to be moved forward. With greater clearance between the engine and frame, the use of simplified exhaust pipes is permitted. The constant-velocity universal joint with two-shaft design is retained in 1962.

Handling is said to be easier on the 1962 models, because of the more favorable weight distribution. A new front-spring support crossmember, required by the engine relocation, has relocated pivot points for the lower control arms. The upper control arms are shorter than those used in 1961. The three-link type rear suspension is continued.

Manual Steering Gear

An inboard-mounted manual steering gear of the recirculating ball nut type is standard on the LeSabre and Invicta models for 1962. This steering gear has a 28-to-1 gear ratio giving an over-all ratio of 33 to 1.

A rotary-valve type power-steering unit is standard on the Electra 225 series, and optional on the LeSabre and Invicta models. A change in the power-steering unit is revised internal stops for the gear itself. These stops are designed to reduce substantially the maximum loads on the steering linkage during parking or other

[CONTINUED ON PAGE 152]



ST 255

safety first with Stant Tester and Lev-R-Vent

The filler neck of our customer's vehicle is a vital spot. But it's fraught with danger for you and for him. You need to stock and push *Stant Lev-R-Vent* Safety Caps to prevent scalds. And especially now you need *Stant* Cooling System and Cap Tester to insure your winterizing against leaks *after* you install the coolant! Ask your jobber salesman about our special fall promotion on *Lev-R-Vent* Safety Caps. The bonus caps with the *Stant* ST-255 Tester make your cost unbelievably low! Get ready now to do *complete* cooling system servicing.

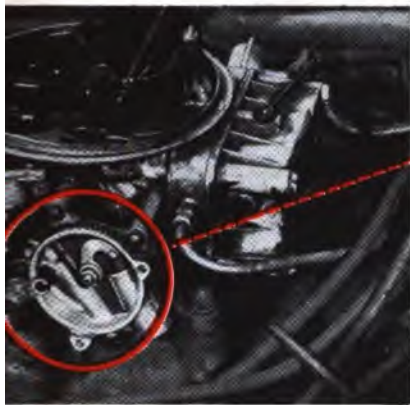
STANT MANUFACTURING CO., INC.
Connersville, Indiana

Standard of the industry and
original equipment for a generation

Lev-R-Vent
Safety Cap

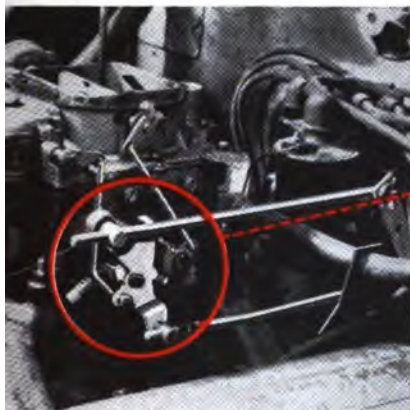


GUMOUT[®] automatic choke cleaner



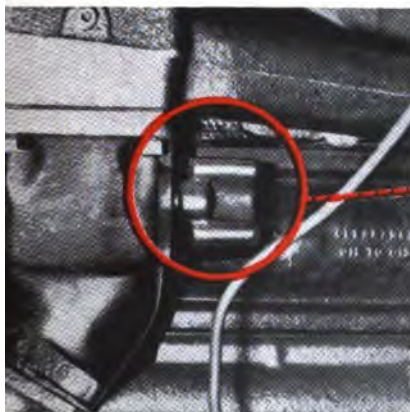
Frees Sticking Chokes

Just squirt on both ends of choke valve shaft, then remove choke cover and flood vacuum cylinder while the engine runs. Works instantly!



Cleans Carburetor Linkage

Dirty, oily linkage can badly foul up carburetor performance. Now you can clean it in seconds!



Loosens Manifold Heat Controls

Quickly penetrates and frees heat controls frozen by rust and carbon. Leaves no oily residue to form carbon and cause further sticking.

Service stations and tune-up specialists everywhere are talking about the really great "assist" new GUMOUT Automatic Choke Cleaner gives. It's quick. It's easy to use. It's effective. And it's inexpensive (a little goes a long way). If you haven't already tried this "powerhouse" in the jet-stream can, order from your GUMOUT jobber today!



GUMOUT DIVISION, PENNSYLVANIA REFINING CO.
CLEVELAND 4, OHIO

401 In. V-8 Standard on Buick

continued from page 150

hard-over maneuvers. Steering linkage on all series is changed to provide clearance for the relocated powerplant.

On all series, the No. 1 and No. 4 body mounts, the rear engine and transmission mount and the rear suspension bushings are softer than those used on 1961 cars. The front body-mounting brackets are moved

outboard. On the Electra 225 the front-spring rate is slightly reduced, rear shock-absorber rate is decreased, and front shock-absorber rate is increased on all large models except station wagons.

In the LeSabre series, the number of models offered has been reduced to four. For 1962, two- and four-door sedans, and two- and four-door hardtops, are available in this series.

The number of Invicta models is increased by adding two station wagons in two- and three-seat ver-

sions. Also offered in this series are a four-door hardtop and a two-door convertible.

The entire Electra, or 4700 series, is discontinued and the models formerly available in this series are added to the Electra 225, 4800 series. Offered as Electra 225 models are two four-door, six-window sedans, one with thin pillars and the other pillarless, a four-door hardtop, two-door hardtop, and a two-door convertible.

THE END. NOW TURN BACK TO PAGE 54

3 ALL-NEW TIMESAVERS FROM K-D

One Wheel Weight Tool— K-D No. 470— installs and removes all types



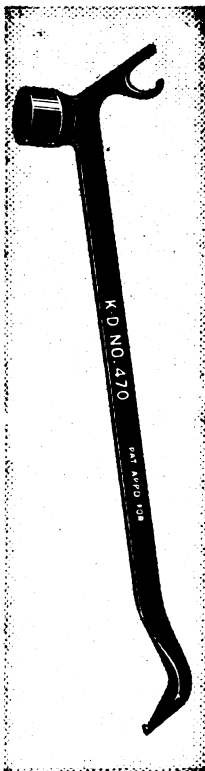
Hammers weight into place and crimps it



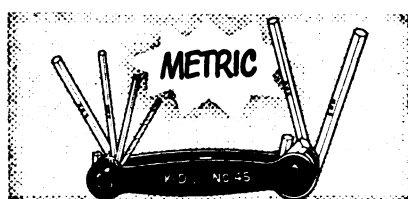
Hooks into hole, pries weight off



Special pointed end for removal of weights without holes



\$3.15, Eastern resale—slightly higher in West



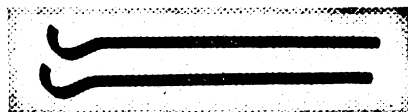
\$1.15, Eastern resale—slightly higher in West

K-D No. 45 Metric Hex Key Pak— with all 6 popular small sizes

A basic pocket tool (3 7/8" folded) for servicing foreign makes. Mounted in sturdy steel handle. Sizes: 2mm, 2 1/2mm, 3mm, 4mm, 5mm, 6mm. Other sizes also available.

K-D No. 284 Rear Brake Drum Puller— frees frozen Chevrolet drums on all models from 1940 on

No heat, no distortion

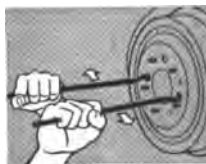
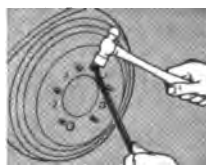


\$2.75, Eastern resale—slightly higher in West

Two pullers,
two easy steps

1. On opposite sides of the axle, drive wedge-shaped ends of pullers between drum and axle flange in direction of axle.

2. Pry drum loose with outward alternate rocking. Use both pullers to prevent binding.



Write for free catalog—or see your tool supplier

K-D TOOLS

Make Hard Jobs Easy

K-D MANUFACTURING COMPANY

Lancaster, Pa.

Appraisals Make The Salesman

continued from page 45

fail to report 10 phone calls a day if that's what the sales manager wanted. We had faith in our men and making phone calls and writing postcards was not what we had hired them for, although we knew this eventually led to sales. What we wanted salesmen for was to sell cars. The records showed they weren't doing it, at least not in volume that we wanted and expected.

That is when we decided to toss out the daily reports. We felt these records could be too easily faked and, quite frankly, we were interested only in results. For instance, I wanted to know how good some of our men were in closing the deals they were working. Who were the best closers? Who were the worst ones? I also wanted to know the number of appraisals each one of our salesmen had each day and each month. You can't sell a car without an appraisal, so with a concerted effort to get more appraisals we felt we would get more sales.

Needed Better Yardstick

That's when we decided on our new method with our salesmen. I feel strongly that we have a better idea of just how good each salesman is. Our sales staff is told that we judge them now only on the number of appraisals they make. Now, if he has an average way below our staff average, then he just isn't working and we have a little chat with him. If he's getting the average number of appraisals but his percentage closed is not average, then we are very close to him in future closes and we discuss with

[CONTINUED ON PAGE 15.]

across the top of the sheet
the left side of the sheet
days of the month.

Under each man's name
three vertical columns. One
the number of appraisals, one
the number of sales, and
third the percentage of appraisals
that result in sales. We record
figures every 15 days or so
we desire.

It takes only a glance to see
each man is doing in relation to
the average or to the other men
the staff. Only a moment is
needed to compare his work with
the previous month or any
other period.

Turns Up Surprises

We were surprised at some of
the things the chart told us. In
one case or two, we were somewhat
startled to find that men we
thought were top-hole weren't
really closing up so well. We
spotted men in sales slumps
who couldn't get going, so we
helped him out once or twice
before his slump became a
serious mental problem.

Once we have this information
the next step is up to us. Earlier,
we have a good sales manager
doesn't have to be browbeaten or
bull-whipped. It can be handled.

A simple chart will tell you
if a man is in a sales slump. His
appraisal record tells us and
reveals not that he isn't working
but that he isn't working efficiently.
The sales manager can direct
more effort to the man in question
and get him back on the track.

Appraisals Wanted

From these details, it is clear
that the daily sales reports
can't do much for us in
way of improving our staff's
results. Frankly, we do
they go to the ball game
willing alley. What we want
appraisals. If we're getting them,
we know positively whether
they are doing or not because
they but our sales manager
directed to make them work.
Now that our men have
necessary prospecting and
marketing.

So far, we've been working
in our way. We've

[CONTINUED ON

MOTOR

Appraisals Make The Salesman

continued from page 152

him his closing technique and make suggestions.

We haven't been at it long enough to establish an unvarying ratio between appraisals and sales but, up to now, it has been running between 30 and 34 per cent. In other words, for every three appraisals we can count on closing one sale.

It is obvious that straight sales without trade-ins do not involve an appraisal. This fact does affect the percentages but such deals are so few that we ignore them.

Our ratios don't mean that every time every salesman brings three prospects to the appraisal point he sells a car. Some salesmen do better than that, some not so well.

We keep monthly record sheets that, at first glance, may look like a sales chart. It lists the salesmen—we have 14 of them right now—

across the top of the sheet. Down the left side of the sheet are the days of the month.

Under each man's name run three vertical columns. One lists the number of appraisals, the second the number of sales, and the third the percentage of appraisals that result in sales. We total these figures every 15 days or oftener if we desire.

It takes only a glance to tell how each man is doing in relation to the average or to the other men on the staff. Only a moment more is needed to compare his work with the previous month or any previous period.

Turns Up Surprises

We were surprised at some of the things the chart told us. In a case or two, we were somewhat startled to find that men we thought were top-hole closers weren't really closing up to average. We spotted men in temporary slumps who couldn't get appraisals so we helped him out one way or another before his slump became a serious mental problem.

Once we have this information, the next step is up to us. As I said earlier, we have a good sales staff. It doesn't have to be browbeaten or bull-whipped. It can be encouraged.

A simple chart will tell when a man is in a sales slump, but our appraisal record tells us more. It reveals not that he isn't working but that he isn't working effectively. The sales manager can devote a bit more effort to the man at such a time and get him back on the track.

Appraisals Wanted

From these details, it should be clear that the daily salesman's reports can't do much for us in the way of improving our staff's efforts or results. Frankly, we don't care if they go to the ball game or the bowling alley. What we want is appraisals. If we're getting them—and we know positively whether we're getting them or not because nobody but our sales manager is permitted to make them—then we know that our men have done the necessary prospecting and demonstrating.

So far, we've been more or less feeling our way. We've observed

[CONTINUED ON PAGE 156]

TRY IT!



You'll Buy It...

You can try National's "DA" Sander in your own shop without cost. Just call your jobber today and tell him you would like to try a Model "DA" for one week. See how the off center sanding pad revolves free and independent of the driving head. You'll note how this action produces an unusually scratch free surface . . . how no heat is generated . . . how wet sanding is unnecessary, and abrasive lasts longer.

You will see for yourself that Model "DA" does a better, quicker job of sanding prime, surfacer, and putty . . . of removing rock chips and scratches in color without going through the prime. No hand clean-up (except with tac rag), and the surface is ready for color, even Acrylics.

Call Your Jobber Today for Loan of National's "DA"
or write . . .



NATIONAL • DETROIT, INC.
ROCKFORD, ILLINOIS

cause it means ~~more~~
pockets.

We don't have ~~much~~
ting a new man ~~when~~
arises. I don't mean ~~that~~
men are plentiful: ~~far~~
mean that we are ~~constantly~~
alert for promising ~~talents~~

The man we are ~~looking for~~
with a view toward ~~filling~~
some future day ~~must~~
know we are interested ~~in~~
we always have our ~~eyes~~
two, because no ~~one~~
when a vacancy will ~~be~~
one reason or ~~another~~

The last thing we ~~would~~
to put an ad in ~~help~~
umns of the daily ~~news~~
don't have a man on ~~the~~
came to us through ~~the~~

We want men ~~who~~
ing around for a job. ~~They~~
busy making good ~~on~~
they've got.

THE END. NOW TURN BACK 1

DEATHS

CHARLES C. GATES, 52
the Gates Rubber Co.
Col., died recently at the

He founded the ~~company~~
From a one-man shop ~~in~~
to the point where ~~the~~
Rubber Co. is said to be
try's sixth largest rubber
turing concern.

Besides his widow, ~~Mrs.~~
L. Gates, he is survived by
lren, 16 grandchildren
brother John.

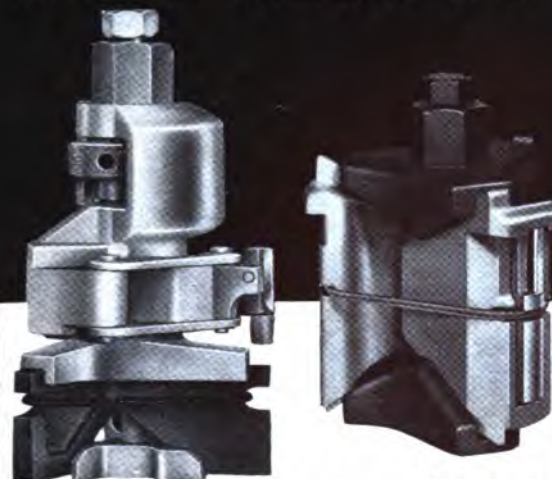
CARLYLE FRASER, 58
of the board of Genuine
Atlanta, Ga., died last m

In 1928 Mr. Fraser be-
parts Depot, changing th
enuine Parts Co. The
he firm did a \$75,000 a
960, the organization's 2
olume topped \$75,000 ~~annually~~
fr. Fraser's leadership
any opened branch jobs
as well as 13 NAPA ~~warehouses~~

Mr. Fraser was one of d
ers of the National ~~Auto~~
arts Assn. and served as
ent 1939-41, and as a dire
at time. He was also ~~chairman~~
e board of Echlin ~~Manufacturing~~
Co.

He is survived by his w
ns, two daughters, two
sister and 17 grandchild

AMMCO RIDGE REAMERS



NEW #7100
CANTED BLOCKS

3" to 5"

FAST CUTTING CARBIDE

FAST #2100
EASY-TO-USE

2 1/16" to 5"

AMMCO

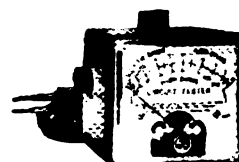
NORTH CHICAGO, ILL.

SEE YOUR AMMCO JOBBER

2 NEW HOYT METERS for Testing ALTERNATORS

CIRCUIT TESTER AND OHMMETER
Hoyt Model 666

Ideal for testing Alternators, Diodes, Rectifiers and Transistors. Combined quality, compactness and clear readability. Two separate sockets for Low and High ohm scales.



ALTERNATOR VOLT METER
Hoyt Model 614 DR

Solves the mechanic's growing problems with the new Alternators. Sturdy, low cost, pocket size meter . . . gives quick, clear, accurate readings—1 to 18 Volts—AC and DC Voltages.



- **OIL PRESSURE GAUGE** (0-80 lbs.) shows pounds per square inch at all operating speeds.
- **AMMETER** (60-0-60 amps.) shows battery charge and discharge rate; generator current flow.

Blinking Lights on the Dash
Don't Tell All!

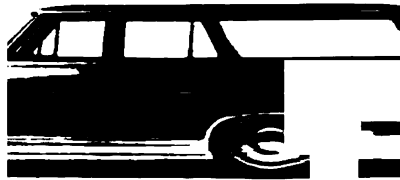
Just an indication of GOOD or BAD isn't enough . . . especially if a bulb is burned out. Cars need this great, new HOYT Ammeter-Oil Pressure Gauge Unit (#1700) that continually and accurately reports on engine lubrication and ignition systems. And, it's priced right for sale-action and PROFIT!

Neutral grey panel is 5 1/4" x 3" and complements all car interiors. Meters are 2 1/4" diameter, easy-to-read, and have narrow polished bezels. Universal mounting. Three color, stocking counter display available.

New, revised edition—**METERS AND MOTORS**, famous 32 page book on practical motor tune-up and electrical system testing for every mechanic. Only 50¢—Write Dept. M-10.

BURTON-ROGERS COMPANY
Sales Division of
HOYT ELECTRICAL INSTRUMENT WORKS
42 Carleton Street, Cambridge 42, Mass., U.S.A.





0 wagon in Chevy II line
ilable with either engine

rs 4 and 6

ge 58

olted together. The body
e structural members
the body. The front
orts the engine and the
suspension, is also
ly. Front fenders are
the Corvair, Chevy II
r, 3.5 in. higher, the
the interior and luggage

ssembly, basically the
rolet, is a semi-floating
uses an overhung
differential carrier

ar axle ratio for sedans
ine is 3.08 to 1. A 3.55-
n wagons and optional
Powerglide, the ratio is
pes, and 3.55 to 1 for
h either manual trans
ndard rear axle ratio is
pes, 3.36 to 1 for stan
is also available opti
pes with manual trans
tial is optional on all

suspension Changes

on the Chevy II consist
g at each rear wheel
sorbers, compression
ial axle mounting system
spring is 62.5 in. betwe
idth and thickness var
thickest at the center
lth is greater at the en
ape gives the spring a
working length. The
shot-peened with the
s said to give the spring

sandwiched in two ber
point. With large rubbe
ere is no metal-to-met
and the parts to which

tandard.

hree series are offered
: 100 series, two-door
ur-door, two-seat

AMMCO RIDGE REAMERS




NEW #7100
CANTED BLOCKS
3" to 5"
FAST CUTTING CARBIDE

FAST #2100
EASY-TO-USE
2 1/16" to 5"
FAST CUTTING CARBIDE



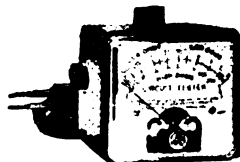
NORTH CHICAGO, ILL.

SEE YOUR AMMCO JOBBER

2 NEW HOYT METERS for Testing ALTERNATORS

CIRCUIT TESTER AND OHMMETER Hoyt Model 666

Ideal for testing Alternators, Diodes, Rectifiers and Transistors. Combined quality, compactness and clear readability. Two separate sockets for Low and High ohm scales.



ALTERNATOR VOLT METER Hoyt Model 614 DR

Solves the mechanic's growing problems with the new Alternators. Sturdy, low cost, pocket size meter . . . gives quick, clear, accurate readings—1 to 18 Volts—AC and DC Voltages.



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- **AMMETER** (60-0-60 amps.) shows battery charge and discharge rate; generator current flow.

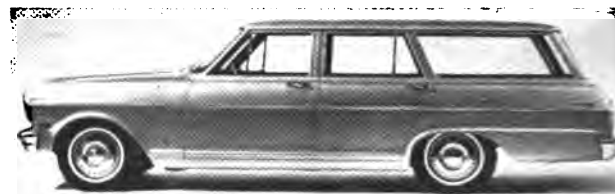
Blinking Lights on the Dash Don't Tell All!

Just an indication of GOOD or BAD isn't enough . . . especially if a bulb is burned out. Cars need this great, new HOYT Ammeter-Oil Pressure Gauge Unit (#1700) that continually and accurately reports on engine lubrication and ignition systems. And, it's priced right for sales-action and PROFIT!

Neutral grey panel is 5 1/4" x 3" and complements all car interiors. Meters are 2 1/4" diameter, easy-to-read, and have narrow polished bezels. Universal mounting. Three color, stocking counter display available.

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BURTON-ROGERS COMPANY
Sales Division of
HOYT ELECTRICAL INSTRUMENT WORKS
42 Carleton Street, Cambridge 42, Mass., U.S.A.



Series 300 wagon in Chevy II line.
It is available with either engine

Chevy II Offers 4 and 6

continued from page 58

tures which are bolted together. The body proper is unitized, with the structural members of the frame incorporated into the body. The front-end substructure, which supports the engine and the independent coil-spring front suspension, is also unitized and bolted to the body. Front fenders are bolted on. In comparison with the Corvair, Chevy II sedans are almost 4 in. wider, 3.5 in. higher, the wheelbase is 2 in. longer, and the interior and luggage compartment are roomier.

The rear axle assembly, basically the same as that on the senior Chevrolet, is a semi-floating type. It has hypoid gears, and uses an overhung-pinion design with independent differential carrier and stamped housing.

The standard rear axle ratio for sedans and coupes with the 4 cyl. engine is 3.08 to 1. A 3.55-to-1 ratio is standard on station wagons and optional on sedans and coupes. With Powerglide, the ratio is 3.36 to 1 for sedans and coupes, and 3.55 to 1 for wagons. On 6 cyl. models, with either manual transmission or Powerglide, the standard rear axle ratio is 3.08 to 1 for sedans and coupes, 3.36 to 1 for station wagons. The 3.36-to-1 ratio is also available optionally for 6 cyl. sedans and coupes with manual transmission. A limited-slip differential is optional on all models.

Rear Suspension Changes

Rear suspension on the Chevy II consists basically of a single-leaf spring at each rear wheel, diagonally mounted shock absorbers, compression-type rear shackles, and a special axle mounting system. Under load the single leaf spring is 62.5 in. between the eye centerlines. Both width and thickness vary almost continuously, being thickest at the center, thinnest at the ends. The width is greater at the ends than at the center. This shape gives the spring a uniform stressing through its working length. The upper surface of the spring is shot-peened with the spring under tension, a process said to give the spring superior resistance to fatigue.

The single leaf is sandwiched in two heavy rubber pads at its mounting point. With large rubber bushings at each end, there is no metal-to-metal contact between the spring and the parts to which it is attached.

Two-ply tires are standard.

Nine models in three series are offered in the Chevy II line. In the 100 series, two-door and four-door sedans and a four-door, two-seat station wagon

this tag is ~~mission~~
should be given ~~the~~
pearing on the ~~car~~
Rochester replacement
tion requires only
model car, type of ~~transmission~~
number of ~~barr~~
markings appear ~~on~~

Remember, order ~~the~~
replacement or kit ~~on~~
time schedule and ~~cost~~

To prevent costly ~~errors~~
assure a quality ~~work~~
number of work ~~rules~~
be followed. Work ~~on~~
gauges and hands ~~on~~
dirt-free. Good work ~~on~~
grouping of parts ~~on~~
pective assemblies ~~on~~
various parts to ~~be~~
will lead to confusion

Plug Flange On

The carburetor ~~must~~
on the manifold ~~be~~
with a clean rag ~~to~~
stray object from ~~falling~~
tering the combustion
Another good practice ~~is~~
new gaskets and ~~accelerator~~
plunger in clean ~~oil~~
will assure good ~~gasket~~
and good sealing. ~~Never~~
old gasket and ~~expect~~

After disassembly ~~of~~
retor, all the metal ~~parts~~
placed in a strainer ~~and~~
in a tank containing ~~a~~
cleaning solvent. ~~Then~~
the accelerator pump ~~and~~
gaskets, or anything ~~plastic~~
tic with the metal ~~parts~~
following the manufac-
mendations for clean-
ing, all parts should ~~be~~
compressed air and ~~a~~
clean area on the ~~bench~~
When the carburetor ~~is~~
er, the job is not ~~complete~~
certain basic adjustments

Use Proper Gauge

Inspecting and ~~adjusting~~
float is necessary so ~~a~~
level can be maintained
normal operating
When making the inspe-
or cracks, pin holes ~~in~~
he float. When adjust-
o use the proper gauge

Adjustment of the ~~needle~~
ssures the flow ~~of~~
mount of fuel called
hrottle valve opening

[CONTINUED]

Kits to Cure Carburetor Faults

continued from page 43

variety of carburetor kits containing all the parts necessary for a proper overhaul.

Carburetor work, like other phases of automotive repair, requires accuracy. This is especially so when it comes to ordering the right kit. There was a time when a parts supplier needed to know only the year and model of the

automobile. Now the number of engine-chassis combinations has grown to the point where more detailed information is necessary to fill a parts order accurately.

The best way to make sure that you receive the proper kit from your jobber is to give him the proper numbers found on the old carburetor. For example, on Holley, the number is called a "List Number" and appears on the fuel inlet boss or the carburetor base. Carter usually has a numbered brass tag attached to one of the screws. If

this tag is missing, the jobber should be given the number appearing on the carburetor base. Rochester replacement information requires only the year and model car, type of transmission and number of barrels. Stromberg markings appear on the air horn.

Remember, ordering the wrong replacement or kit will upset your time schedule and cut into profits.

To prevent costly comebacks and assure a quality job, there are a number of work rules which should be followed. Work bench, tools, gauges and hands must be kept dirt-free. Good work habits include grouping of parts with their respective assemblies. Allowing the various parts to become intermixed will lead to confusion.

Plug Flange Opening

The carburetor flange opening on the manifold should be plugged with a clean rag to prevent any stray object from falling in and entering the combustion chamber. Another good practice is to soak new gaskets and accelerator pump plunger in clean kerosene. This will assure good gasket flexibility and good sealing. Never re-use an old gasket and expect good results.

After disassembly of the carburetor, all the metal parts can be placed in a strainer and installed in a tank containing a good metal-cleaning solvent. Do not include the accelerator pump plunger, old gaskets, or anything made of plastic with the metal parts. After following the manufacturer's recommendations for cleaning and rinsing, all parts should be dried with compressed air and placed in a clean area on the work bench. When the carburetor is put together, the job is not complete until certain basic adjustments are made.

Use Proper Gauge

Inspecting and adjusting the float is necessary so a constant fuel level can be maintained under all normal operating conditions. When making the inspection, look for cracks, pin holes or dents in the float. When adjusting be sure to use the proper gauge.

Adjustment of the metering rods assures the flow of the correct amount of fuel called for by the throttle valve opening.

[CONTINUED ON PAGE 162]



BIG SERVICE PROFITS BEGIN HERE

STAR BRAKE SHOP

Here's everything you need to become a complete brake service shop. With a Star Space-Saver Brake Shop you're ready to handle any brake job from start to finish—with the precision equipment to do the best brake work in your area. The Star Space-Saver takes less than five square feet of floor area, rolls anywhere on swivel casters.

You can buy the Star Space Saver Brake Shop now, on Star's Pay-out-of-Profits Finance Plan. Mail the coupon for demonstration proof!



STAR MACHINE & TOOL COMPANY
205 Southeast 6th St., Mpls. 14, Minn.

Yes! I'd like to see what the Star Space-Saver Brake Shop can do for me.

Name

Address

City State

base gasket on the ~~man~~
and install the ~~carburetor~~
attaching the hold-down
a good idea to ~~attach~~
tighten the fuel line, so
vacuum line, and the
tube. Since the ~~carburetor~~
yet tied down, it ~~can~~
what and help ~~prevent~~
the threads of the ~~tube~~

When tightening the
to the intake manifold
the nuts equally and ~~as~~
than fully securing ~~it~~
time. After the ~~carburetor~~
in place, the linkage is
secured and the tube ~~is~~

When starting the
take a little while
pump to fill the ~~carburetor~~
bowl. Use this time ~~for~~
operation of the ~~engine~~
and check for fuel ~~leak~~
engine is started, the ~~work~~
be completed with ~~the~~
ments of the carburetor
ture, engine idle ~~speed~~
tion tests, and ignition
THE END. NOW TURN PAGE

Elect NADA Directors

Frank S. Edelson, N.Y.
and Nelson C. Quillen, N.
Del., have been elected
their states on the board
of the National Automobile
Assn. Maxwell S. Egan
was elected to represent
Ill. on the N.A.A.
and will serve out the
term of the late Charles
Corkle which runs ~~out~~

Robert G. Stovall, N.Y.
Col. and William E. Egan,
N.M., have been
to represent their states
board, and W. J. Bann,
Mich., has been named
Metropolitan Detroit area.

J. Alfred Begnaud, N.Y.
Cal., has been elected to
his state on the board
of the National Automobile
Assn. He succeeds
Cleveland, who died
lection.

Can You Name It?

Answer to problem on page

The model shown is a
and.

Kits to Cure Carburetor Faults

continued from page 160

Improper operation of the automatic choke or fast idle setting will cause a comeback faster than any other malfunction. During the winter months ahead starting will be most difficult if the engine cannot receive the initial rich mixture and keep running at a fast idle until it warms up.

Of equal importance is the abil-

ity of the choke to release after the engine reaches normal operating temperature. Prior to adjustment, the plastic choke-housing cover should be examined for cracks and warpage. If these defects are allowed to remain, there will be a loss of engine vacuum which will affect choke release.

The number and type of adjustments will vary with the different carburetors. Follow the procedure included with the repair kit.

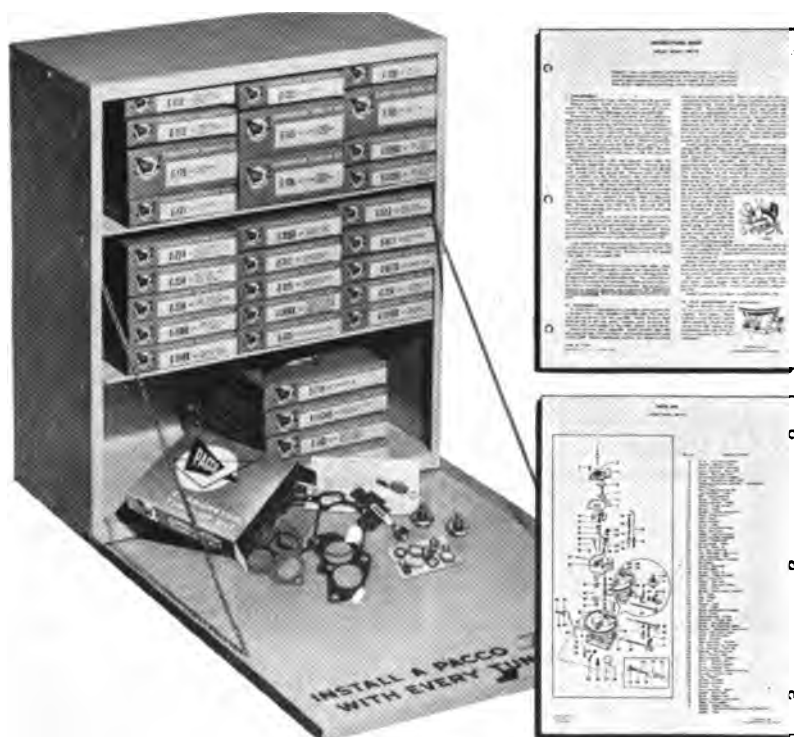
After all the adjustments are complete, replace the carburetor

base gasket on the intake manifold and install the carburetor. Before attaching the hold-down nuts, it is a good idea to attach and finger-tighten the fuel line, spark advance vacuum line, and the heat riser tube. Since the carburetor is not yet tied down, it can shift somewhat and help prevent stripping the threads of the tube fittings.

When tightening the carburetor to the intake manifold, tighten all the nuts equally and evenly rather than fully securing one nut at a time. After the carburetor is fixed in place, the linkages can be secured and the tube lines tightened.

When starting the car, it may take a little while for the fuel pump to fill the carburetor fuel bowl. Use this time to inspect the operation of the automatic choke and check for fuel leaks. After the engine is started, the tune-up can be completed with final adjustments of the carburetor idle mixture, engine idle speed, acceleration tests, and ignition timing.

THE END. NOW TURN BACK TO PAGE 44



COMPLETE CURE FOR TUNE-UP-PHOBIA.

With Pacco's precise instruction sheet in hand and this Pacco Tune-Up Center on the wall, you can face any carburetor and make money.

The cabinet contains 30 Pacco Tune-Up Kits for the most popular applications, and doubles as a work-shelf. Each Kit contains step-by-step disassembly and assembly instructions, plus a clear diagram of every part.

We'll give you two 4-barrel kits free with each Tune-Up Center. Two tune-ups with these kits will pay for your cabinet! Good deal? Then get yours at your supplier's today.



PRECISION AUTOMOTIVE COMPONENTS COMPANY, Manchester, Missouri

Elect NADA Directors

Frank S. Edelon, Miami, Fla., and Nelson C. Quillen, New Castle, Del., have been elected to represent their states on the board of directors of the National Automobile Dealers Assn. Maxwell S. Evans, Chicago, was elected to represent Metropolitan Chicago on the NADA board, and will serve out the unexpired term of the late Clarence J. McCorkle which runs through 1963.

Robert G. Stovall, Jr., Denver, Col. and William E. Black, Albuquerque, N. M., have been elected to represent their states on the board, and W. J. Bundy, Detroit, Mich., has been named to represent Metropolitan Detroit area.

J. Alfred Begnaud, Lafayette, La., has been elected to represent his state on the board of directors of the National Automobile Dealers Assn. He succeeds William J. Cleveland, who did not seek re-election.

Can You Name It?

Answer to problem on page 137

The model shown is a 1924 Cleveland.

gon



It's Always Time To Hunt Salesmen

continued from page 47

between his ears. He continued with the glances at Lou's over the riff, "you don't fall in fiction."

"Somethin' I do all the time though," said Lou. "You lay for me. Here I am, a minute for a friendly chat happens? I get insulted. I don't know why I ever."

"Because your day is a total loss unless you do," Lou grunted.

"You don't mind," Adelaide brightly. "If I could read your mind at rest, what do you?"

Dragging hard on the expelling the smoke. "You heard what rough angels fear to tread in."

And, with that, Lou before Adelaide could answer. Actually, she was thinking: her thoughts were about Kinkaid, and his problem with the idea of asking Cap. to take him around for a while. He was not quite get up the stairs, but himself provided a way. Turning to the salesman, he was more than when he had let her. The first time she saw him, he was a water cooler, perhaps, that she was thirsty.

"Somebody been making jokes?" she asked with a casualness as she could.

"No," snapped Phil, a cup.

"I heard one you—"

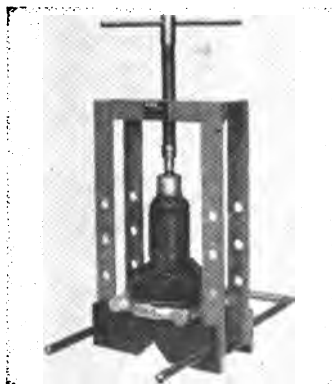
[CONTINUED]

V-6 for 1962 GMC Wagon

Eight-passenger GMC Suburban wagon has 305 cu. in. V-6. Ride is cushioned by independent front suspension, coil springs in rear



TRUCUT tools and equipment are designed especially for automotive repair. Save work, save time. Add extra profits by enabling you to handle jobs you now send out. See your jobber.

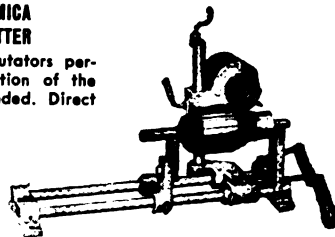


TRUCUT MANUAL UTILITY PRESS

A time-saving, low-cost shop press. Enlarged for fast removal and installation of pressed-on pulleys, pole shoe pieces, bearings and many other general purpose press jobs.

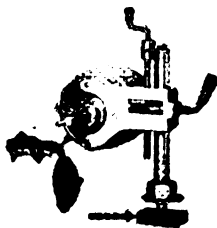
TRUCUT MICA UNDERCUTTER

Undercuts commutators perfectly in a fraction of the time usually needed. Direct motor drive



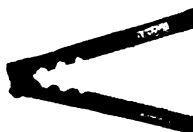
TRUCUT MICA UNDERCUTTER ATTACHMENT

For general purpose engine lathes. Handles commutators up to 6" in diameter. Direct motor drive.



TRUCUT ARMATURE SHAFT RE-THREADING TOOL

Just clamp on base of thread and screw armature off. Also used for restoring threads on special bolts.



Write for catalog including many other items too numerous to list!



NO-MAR ALUMINUM HAMMER

Specially treated aluminum alloy. Strikes solid blow with minimum rebound. Will not harm even fine machine surfaces. Non-chipping, non-sparking. 3 sizes.

FRANK N. WOOD CO.

SINCE 1933
TRUCUT

344 W. Main St.

Waukesha, Wisconsin

It's Always Time To Hunt Salesmen

continued from page 47

between his ears. Obviously," she continued with the swiftest of glances at Lou's overhanging midriff, "you don't fall into that classification."

"Somethin' I do always fall into, though," said Lou, "is the traps you lay for me. Here I stop a minute for a friendly chat and what happens? I get insulted, as usual. I don't know why I ever stop here."

"Because your day would be a total loss unless you did."

Lou grunted.

"You don't mind," asked Adelaide brightly, "if I set Mr. Kinkaid's mind at rest about his job, do you?"

Dragging hard on the cigar and expelling the smoke, Lou said: "You heard what rushes in where angels fear to tread, ain't you?"

And, with that, Lou ducked out, before Adelaide could frame an answer. Actually, she was not trying; her thoughts were on Phil Kinkaid, and his problems. She let the idea of asking Cap about it rattle around for a while but could not quite get up the courage. Phil himself provided a respite by returning to the salesroom, no gayer than when he had left. Adelaide, the first time she saw Phil at the water cooler, persuaded herself that she was thirsty.

"Somebody been telling you jokes?" she asked with as much casualness as she could command.

"No," snapped Phil, draining his cup.

"I heard one you—"

[CONTINUED ON PAGE 166]

“About that man you hire in Mr. Kinkaid’s—”
said.

Cap leaned forward.
“You ever get an idea like

“Have you seen Mr. Kinkaid lately?”

“I saw him just now—”
glum but I thought
cause you had been
When you’re in a jam
you can make any body

“I had nothing to
tell you,” said Adelaide.
body told him you’d
hire some insurance
Mr. Kinkaid has it
you’re going to fire him
this—this policy peddler.

Cap drummed the
desk for a moment,
deep breath.

“I don’t know what
you to hear my sins.”
every so often it seems
let you pry into my
then apologize for
know it isn’t any
what happens to Phil

“He’s a nice young
Adelaide.

“Like about 20 years
Despite that, he’s a
mobile salesman. I have
of firing him—never
hought.”

“Then what about—”

“This policy peddler—
him,” said Cap. “Well,
off with him several
e didn’t have a customer
The other day he brought
subject of selling cars. I
ave him a pitch on
didn’t know somebody
ropping.”

Then you aren’t going
him?” said Adelaide.

“I never like to make
ents,” said Cap. “You
hen you’ll—I mean,
lesman. If the occasion
st might pick this
an.”

“I don’t understand
aren’t thinking about
y did you go to all the
build up the job? I
ink you were serious.”

“I was,” said Cap.

“But you said—”

“We don’t need him

[CONTINUED ON

It's Always Time To Hunt Salesmen

continued from page 166

moment. Two months from now we may. Either him or somebody else."

"Oh, I see," said Adelaide. "You're like a little flirt at the senior prom—trying to get all the boys interested."

Cap smiled. "There are times," he said, "when I wish I were young enough to attend a college prom,

but I was never one for flirtations."

"You must have another name for it."

"No," said Cap. "When I was talking with that young insurance salesman, I was only doing what every dealer ought to be doing. I was looking ahead."

"You see, every dealer I run into at local affairs or new model introductions or association conventions complains about not being able to get good salesmen. I ask them what they're doing about it and they stare at me. What can be done?"

"I'm not sure I have the final answer, but certainly more can be done than most dealers are doing. When they lose a salesman, they put an ad in the paper. But until they do lose a man, they don't do anything."

"We're always in danger of losing a man. He may win the sweepstakes or inherit a fortune, or get fed up with me, or he might even step in front of a truck. I want to be prepared. I like to know where I can put my finger on two or three promising young men when and if the time comes."

"Then," said Adelaide, bouncing up, "you aren't going to fire anybody just yet?"

Cap shook his head.

"I think somebody ought to tell Mr. Kinkaid," said Adelaide.

"I'll have Wes Moore cheer him up. And I'd like to give you a tip. If you want to stay cheerful, stop trying to play mother hen to a flock of salesmen. About the time you get ready to cry in their beer with them, they make a sale and the world becomes a dream of golden sunsets, rosy dawns and soft music."

"In other words," said Adelaide, "I'm to mind my own business."

—Edward Ford

Next month—Cap employs people of influence.

NOW TURN BACK TO PAGE 48

For faster, easier parts cleaning . . . Join the trend to—



...the modern, safe way to clean automatic transmission, power brake and motor parts

The modern CLEAN-O-MATIC "500" assures better work, customer satisfaction and protects your profits. It not only saves service time, but it also makes a mechanics job easier, less tiring. Designed to reduce fire hazards to life and property, the CLEAN-O-MATIC is built so rugged and dependable, the pump and tank carry a 5 yr. warranty. The CLEAN-O-MATIC is also available in 3 other low-cost models.

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Oil Injection Used On New DKW

A new lubrication system, which injects oil into the engine at the carburetor, is used in the latest DKW two-stroke engine. The amount of oil supplied is regulated by engine load and speed. For normal driving, the proportion of oil to gasoline has been reduced from 40 to 1 on the previous engine to 100 to 1. At light loads and low speed, the amount can drop to 200 to 1.

Reducing the quantity of oil consumed by the engine decreases smoking and spark plug fouling. The separate oil reservoir eliminates the necessity of mixing oil with gasoline in the tank. A warning light on the instrument panel indicates when oil level is low.

Pistons in the new DKW engine are said to require less lubrication.

"I'm not sure I can answer, but certainly I've done more than most dealers. When they lose a sale, they put an ad in the paper; they do lose a man, but not anything."

"We're always in luck finding a man. He may lose his stake or inherit a fortune, but he's fed up with me, or he's stepped in front of a train. I'm prepared. I like to have I can put my finger on a promising young man when the time comes."

"Then," said Adair, "you aren't growing a body just yet?"

Cap shook his head.

"I think somebody," said Mr. Kinkaid.

"I'll have Wes M. set up. And I'd like to see you. If you want to stay, I'm trying to play mother to a lot of salesmen. About the only get ready to cry in their faces, they make a hell of a world becomes a dream of sunsets, rosy dawns and music."

"In other words," said Cap, "I'm to mind my own business."

Next month—Cap's coming of influence.

NOW TURN BACK TO PAGE 10

Oil Injection On New DKW

A new lubrication system injects oil into the engine carburetor, is used on the DKW two-stroke engine. The amount of oil supplied is controlled by engine load and speed. In normal driving, the proportion of oil to gasoline has been reduced to 40 to 1 on the previous 100 to 1. At light throttle speed, the amount is reduced to 200 to 1.

Reducing the quantity of oil consumed by the engine reduces smoking and spark plug fouling. The separate oil reservoir eliminates the necessity of mixing oil with gasoline in the fuel tank. A light on the instrument panel indicates when oil level is low.

Pistons in the new DKW are said to require less

What to Do If Lube Seals Fail

continued from page 46

called for now and in coming months, it would be a good idea to get acquainted with some service procedures relating to this work.

To replace the upper suspension arm spherical joint seal on 1961 Cadillacs, it is necessary to raise the front end of the car and place horses under the lower suspension arms. Then remove the locking nut

and special flat washer from the spherical joint stud. Before going any further, scribe two index marks on the camber eccentric and steering knuckle. This will locate the proper position of the eccentric on installation.

After this, strike the bottom of the joint stud with a soft hammer to release the joint from the steering knuckle. To get at the seal, the camber eccentric must be removed. Do not attempt to hammer it off; use a two-jaw puller.

After cleaning the outer surface

of the old seal and removing the garter spring from the top of it, the seal can be removed. Both the old spring and the old seal should be discarded. Clean the exposed pivot and stud with a suitable solvent, making sure all the old grease and dirt accumulation is removed.

Now it is time to install a new seal.

Take hold of the new seal and turn it inside out. Place the snap ring included in the kit over the bottom hole and push on the seal until the snap ring seats itself in the groove around the hole. Apply a small amount of lubricant around the hole in the seal and install it on the joint stud. Unroll the seal until the lip engages in the recess around the joint housing.

Air Enters Seal

Allow air to enter the seal by momentarily prying the seal away from the joint housing with a small screwdriver. Squeeze the seal while sliding the snap ring end up on the stud. Lubricate the outer surface of the seal with petroleum jelly and install a new garter spring on the seal. Make sure that the spring will be seated in the recess and hold the lip of the seal all around the joint housing. Seal replacement is now complete.

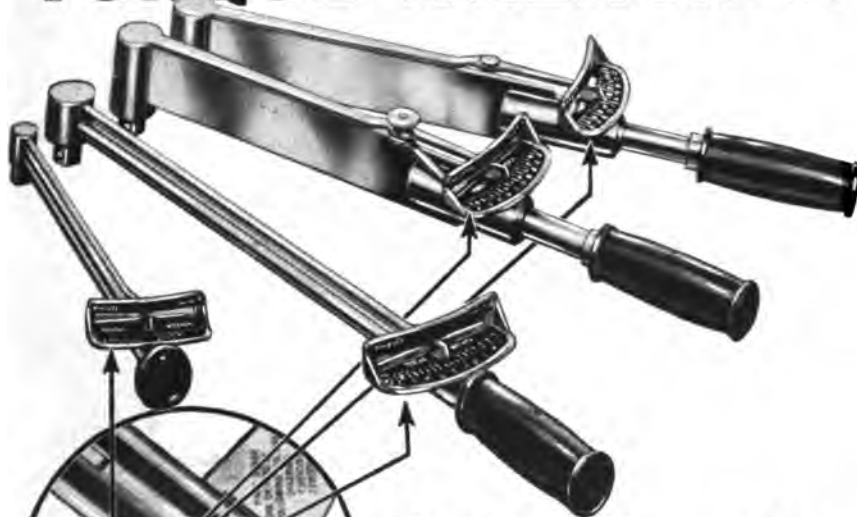
Reassembly starts with placing the camber eccentric on the joint stud and installing the joint stud on the steering knuckle. Be sure the index points made at the start are now aligned. To lock the assembly in position, install a standard nut on the joint stud and tighten until the camber eccentric locks on the knuckle. Then remove the standard nut and install the special flat washer and locking nut. Tighten to 50-65 lb.-ft.

Discard Service Plug

When assembly is complete, pry out and discard the neoprene service plug from the spherical joint cover. This plug is located on the top of the upper spherical joint assembly. Use a special repacking gun to fill the joint with special lubricant. A word of caution: Use only a lube specifically made for ball suspension joint sealed lubrication systems. Do not confuse with special lubricant made for the steering linkage on these cars.

[CONTINUED ON PAGE 172]

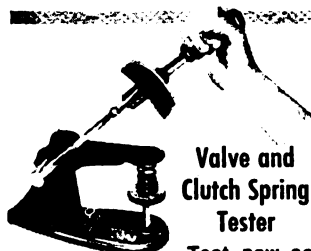
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of the old seal and ~~remove~~
garter spring from ~~the~~
the seal can be removed.
old spring and the ~~old~~
be discarded. Clean ~~the~~
pivot and stud with ~~a~~
vent, making sure all ~~the~~
and dirt accumulation ~~is~~

Now it is time to ~~install~~
seal.

Take hold of the ~~new~~
turn it inside out. Place
ring included in the ~~kit~~
bottom hole and push
until the snap ring ~~seats~~
the groove around ~~the~~
a small amount ~~of~~
around the hole in ~~the~~
install it on the joint ~~at~~
the seal until the lip ~~enters~~
recess around the joint.

Air Enters Seal

Allow air to enter ~~the~~
momentarily prying ~~the~~
from the joint housing ~~with~~
screwdriver. Squeeze ~~the~~
sliding the snap ring ~~on~~
the stud. Lubricate ~~the~~
face of the seal with ~~grease~~
ly and install a new ~~seal~~
on the seal. Make ~~sure~~
spring will be seated ~~in~~
and hold the lip of ~~it~~
around the joint housing.
placement is now complete.

Reassembly starts with
the camber eccentric ~~stud~~
stud and installing ~~the~~
on the steering knuckle.
the index points made ~~on~~
are now aligned. To ~~install~~
sembly in position. Install
ard nut on the joint stud.
en until the camber ~~corrects~~
on the knuckle. Then ~~install~~
standard nut and install
ial flat washer and ~~lock~~
Tighten to 50-65 lb.-ft.

Discard Service

When assembly is ~~over~~
out and discard the ~~new~~
ce plug from the ~~sphere~~
over. This plug is ~~located~~
op of the upper spherical
embly. Use a special ~~tool~~
un to fill the joint ~~with~~
ubricant. A word of ~~advice~~
nly a lube specifically ~~for~~
all suspension joint ~~suspension~~
ation systems. Do not ~~use~~
pecial lubricant ~~made~~
eering linkage on ~~the~~

[CONTINUED ON

What to Do If Lube Seals Fail

continued from page 170

When applying the lube, do not permit the seal to balloon, for this will shorten its life. After lubrication, install a new service plug in the spherical joint cover, install the wheel and lower the car. Check the wheel camber and adjust if necessary.

Should there be signs of seal leakage on any Ford Motor Co.

cars having sealed lubrication, the factory recommends that the ball joint unit be replaced.

To replace a lower ball joint assembly on 1961 Ford, Mercury and Continental, raise the car and place horses under the frame sub-assembly behind the wheels. Remove the wheel and examine the ball joint fixture beneath the lower arm. If the ball joint assembly is riveted to the lower arm, drill a $\frac{1}{8}$ in. pilot hole through each rivet. Then drill off the rivet head with a $\frac{3}{8}$ in. drill and drive the rivets out.

Position a jack under the lower arm directly under the coil spring. Raise the jack so the coil spring is slightly compressed. Remove the cotter pin from the ball joint stud and take off the nut.

Install a ball-joint removing tool against the ends of the upper and lower stud. Turn the adjustment on the tool until both studs are under tension. Using a soft hammer, tap the spindle near the lower stud until the stud pops out of the steering knuckle. To remove the ball joint assembly, the jack supporting the lower arm can be lowered. The lower arm should be cleaned and examined for cracks and burrs resulting from the drilling operation.

From the replacement kit, remove the new ball joint assembly, insert the stud of the new ball joint through the lower arm, through the bore in the knuckle and attach the retaining nut finger-tight. Using the case-hardened nuts, bolts, and washers that come in the kit, secure the ball joint plate to the lower arm. Torque these nuts to 28-45 lb.-ft. and the ball joint stud nut to 70-90 lb.-ft. Do not forget to install a cotter pin in the stud nut.

Remove the lube plug that is located directly under the ball joint assembly. Using a special gun and special grease specifically made for sealed lubrication cars, lube the ball joint. Replace the service plug, lower the car, and check caster, camber and toe-in.

THE END. NOW TURN BACK TO PAGE 47

Have you checked lately on what you spend for outside press jobs?

Add up what you now spend for outside press jobs—including the hidden cost of having work delivered and picked up. Then compare this with the cost of owning an ACCO Hydraulic Press. You'll soon discover you would be money ahead with an ACCO press in your own shop for straightening, parts removal, or any one of many repair jobs. And, you'll find that on a "cost per day" basis an ACCO Hydraulic Press is a profitable investment.

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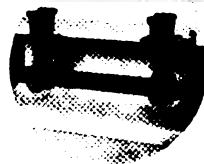
- Available in 25, 40, 60, 80 and 150 ton capacities
- Air or manual operation, or a combination
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- Depth gage accurately indicates ram movement
- V-type packing reduces friction

For complete information, contact your ACCO Equipment jobber. If you don't know his name, write us at York, Pa.

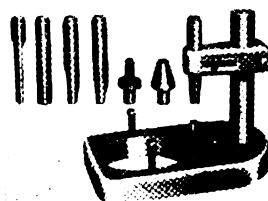


ACCO HYDRAULIC PRESSES

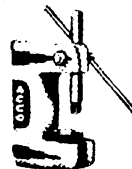
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run-out
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Upsetting
Tool**
For hot and
cold rivet
upsetting



**Auxiliary
Arbor
Press**
3-ton capacity
... For light
jobs ...
Available
with
all models

What Caused This?

Answer to problem on page 68

When the transmission was rebuilt, the snap ring was not seated fully in its groove in the clutch cylinder. When the ring worked loose, the clutch plates came out, chewing up the ends of the splines.

Tread Wear Improved

A new synthetic rubber that reportedly will provide 35 per cent more tread wear and eventually may almost double tire life has been announced by the Goodyear Tire and Rubber Co. The man-made rubber, known as budene, is now in production.

Position a jack under the arm directly under the. Raise the jack so the arm is slightly compressed. Remove the cotter pin from the ball joint and take off the nut.

Install a ball-joint nut against the ends of the lower stud. Turn the nut on the tool until both are under tension. Using a screwdriver tap the spindle near the ball joint until the stud pops out of the steering knuckle. Remove the ball joint assembly. Inspect the lower arm for wear. If worn, it should be replaced. The lower arm should be cleaned and examined for burrs resulting from the grinding operation.

From the replacement kit, move the new ball joint into the lower arm. Insert the stud of the ball joint through the lower arm into the bore in the knuckle. Tighten the retaining nut finger-tight. Apply the case-hardened washers and washers that come with the kit to secure the ball joint in the lower arm. Torque the retaining nut to 28-45 lb.-ft. and the ball joint nut to 70-90 lb.-ft. Do not install a cotter pin in the ball joint.

Remove the lube plug located directly under the ball joint assembly. Using a special grease syringe, apply special grease specified for sealed lubrication to the ball joint. Replace the lube plug. Lower the car, and check the camber and toe-in.

THE END. NOW TURN BACK

What Caused This?

Answer to problem on page 10

When the transmission was built, the snap ring was not fully in its groove in the housing. When the ring was removed, the clutch plates came in contact with the ends of the shaft.

Tread Wear Improves

A new synthetic rubber reportedly will provide more tread wear and may almost double the life of tires. It has been announced by the Fire and Rubber Company, a new synthetic rubber, known as "Synthetic Rubber," now in production.

MOTOR

Monterey Only Full-Size Mercury

continued from page 60

assembly looseness when the car's weight is off the wheels. This condition sometimes resulted in unnecessary replacement of ball joints. Retaining cups are made of heavier steel than formerly and have greater lubricant capacity. A low-friction plastic thrust washer has been incorporated in the lower joint to reduce steering effort.

The same engine line-up of three V-8's and a 6 is continued in 1962. Mechanical, self-adjusting rocker arms, introduced as a running change in 1961, are continued in the 6 cyl. engine. Rocker arms are made of cast aluminum and the same material is used for the housing of the new rotor-type oil pump.

Carburetors of all V-8 engines have new plastic needle-valve seats, designed to prevent flooding caused by dirt particles lodged under the needle valve. Throttle

plate bushings are also made of plastic.

A water-heated carburetor spacer, inserted in the heater line, heats the fuel-air mixture in 352 and 390 cu. in. V-8's. Hot water flows through a passage around the carburetor throats to assist vaporization and prevent icing. A limited amount of exhaust gas flows through the small crossover passage to provide additional heat, but the manifold heat control valve has been eliminated.

A three-speed manual transmission is available with all engines except the 390 cu. in. V-8. An interlock in the linkage prevents shifting into first or reverse unless the clutch is fully released. Mechanical advantage in the linkage has been increased 25 per cent to make shifting easier.

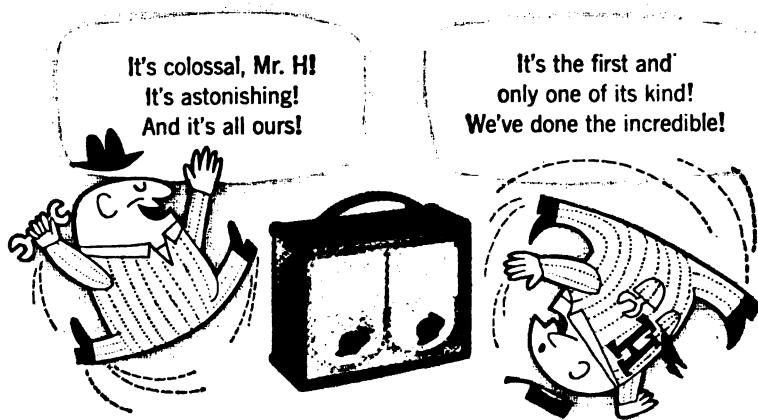
Regulates Pressure

Another 1961 running change which has been continued in 1962 models is the vacuum throttle control for the two-speed automatic transmission. Throttle pressure in the hydraulic control system is regulated by manifold vacuum, eliminating transmission throttle linkage adjustment. The vacuum control was introduced previously on the dual-range Merc-O-Matic.

The two-speed automatic is available with any engine except the 390 cu. in. V-8, while the dual-range, three-speed type can be obtained with any V-8 engine.

[CONTINUED ON PAGE 176]

A few calm statements by Hinckley Myers about their new product, FASTESTOR



"Take a bow, Mr. H, while I tell 'em about Fastestor, our new fuel and temperature indicator systems testing instrument . . . how it checks fuel and temperature dash gauges, wiring harnesses and gas tank and engine heat sending units."

"Keep talking, Mr. M. I can't stop bowing."

"With our Fastestor, servicemen can now get right to the trouble spot in fuel and temperature indicator systems. No more time-consuming replacement of the gauge, sending units and wiring harness! No more trial and error method of testing with a stock unit."

"A real speeder up-er, eh, Mr. M?"

"Minutes! Mere minutes for a simple hook-up of the Fastestor and all cars with one-wire systems are quickly diagnosed for faulty components. And it's made to remain up-to-date for years! And gad, Mr. H, the price is phenomenally low!"

"And don't you just love the name, Mr. H?"

See the Fastestor display at your H-M Jobber.

Air Conditioning Service Unit

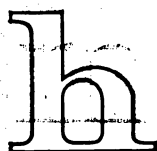


Complete servicing Station: purging, evacuating, charging, testing. Exclusive feature: controlled heat of refrigerant.

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Slides you over the engine for close work. Adjustable, lightweight. Easy to store. No more damaged fenders.



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Super-strength bearing takes 3-ton engine loads

This is the new Federal-Mogul AP steel-backed aluminum bearing. It can take pounding up to 6,000 pounds per square inch (pressure equal to the weight of this medium truck). This bearing was designed by Federal-Mogul engineers for the new kind of engines appearing today . . . shorter engines with high horsepower, high compression, and reduced bearing area.

The secret of this bearing's superiority lies in its new aluminum-alloy lining. It has both the high strength of aluminum and good bearing "oiliness". And in

addition to its exceptional fatigue strength, this Federal-Mogul aluminum bearing is also highly resistant to corrosive engine acids.

This AP aluminum bearing is just one in the complete Federal-Mogul line. Others include the 5-layer copper-alloy, straight copper-alloy, and babbitt bearings. Each is designed for a particular engine . . . and gives superior service in it. Whatever bearing you need for replacement, rely on Federal-Mogul and be sure of customer satisfaction. See your Federal-Mogul jobber.



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FEDERAL-MOGUL SERVICE

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page 174

g brakes are contin-
ed equipment. Drums
led after casting and
ing to relieve in-
and prevent distor-

c type of heater is
ew cars. The water-
is eliminated and in-
ature controlled by

mixing hot and cold fresh air in
the desired proportions. A damper,
operated by a temperature control
on the dash, directs a portion of
the incoming air through the heat-
er core, after which it is mixed
with unheated air in a blending
chamber, then forced through the
outlets to the passenger compart-
ment.

New windshield wiper blades
are 15 in. long, compared with 13
in. for those on the 1961 cars, in-
creasing the cleared area by 20 per
cent. A single-speed electric wiper

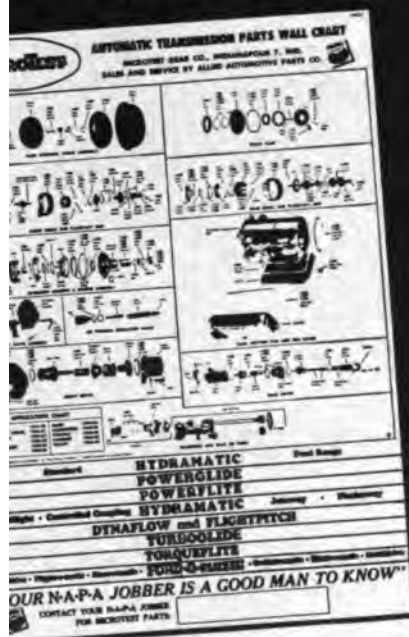
is standard, while a two-speed wip-
er with washer is optional.

The new turn signal switch has
a plastic body, said to be self-lu-
bricating for life. Durability is re-
ported to be increased and cancel-
ling action more uniform.

Each of the two series includes
a two-door hardtop, four-door
hardtop and four-door sedan. A
two-door sedan is available only in
the Monterey series and the only
convertible offered is in the Mon-
terey Custom series. The lower-
priced Commuter station wagon
and the fancier Colony Park mod-
el are each offered in six-passenger
and nine-passenger versions.

THE END. NOW TURN BACK TO PAGE 61

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States distributed \$3,400,000,000
for state highways and \$1,300,000-
000 for local roads and streets in
1960 according to Rex M. Whit-
ton, Federal Highway Administra-
tor. Funds distributed came from
\$5,300,000,000 collected in state
motor-fuel taxes, motor-vehicle reg-
istration fees, and allied road-user
imposts.

The total of \$4,700,000,000 for
highways, roads and streets was 6.8
per cent greater than the \$4,400-
000,000 spent in 1959.

New Brockway Engine

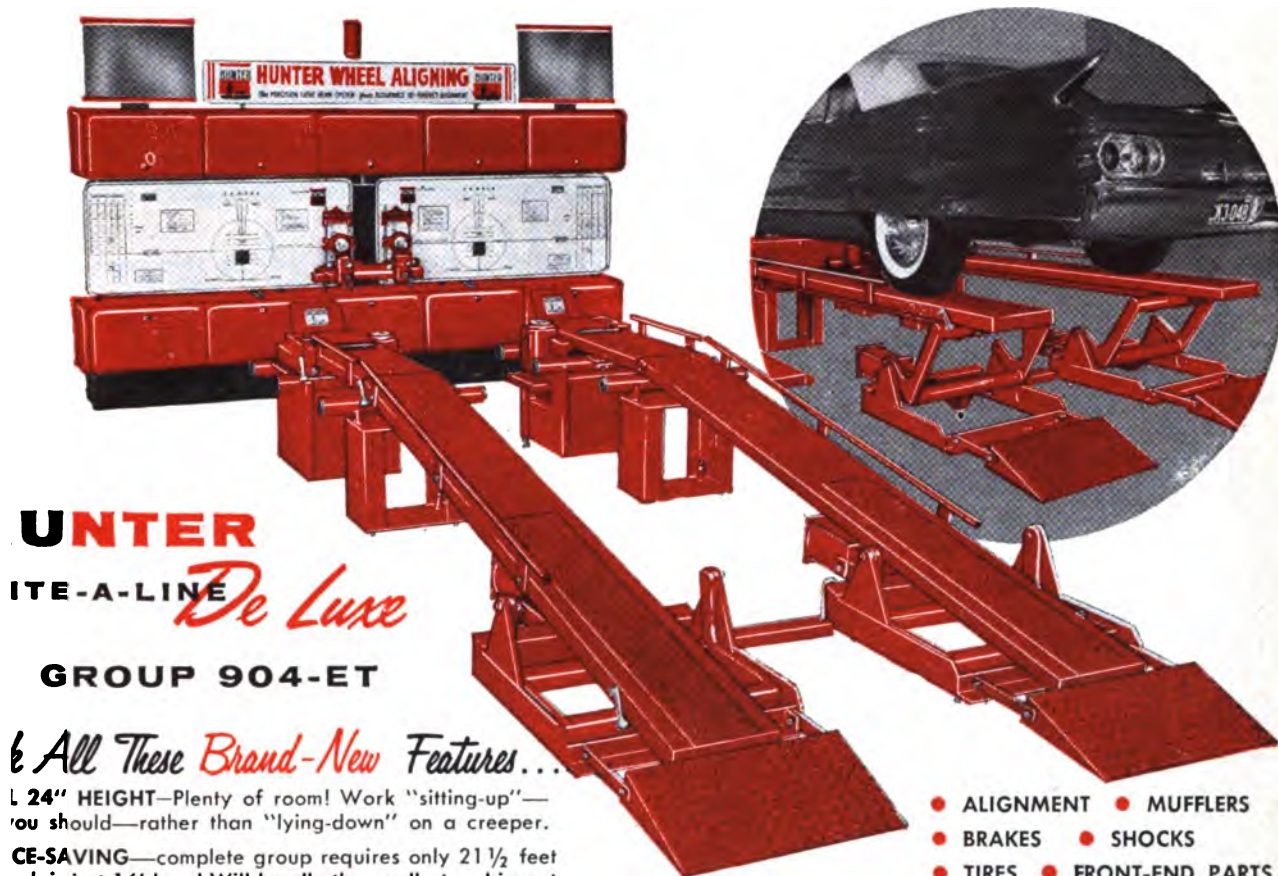


This 478 cu. in. heavy-duty
gas engine develops 200 hp

A new heavy-duty gasoline engine
for Brockway medium and medium-
heavy trucks has been introduced.
Developing 200 hp from 478 cu. in.,
engine has 3 3/4 in. hardened crank-
shaft, positive-rotation sodium-
cooled exhaust valves and chrome-
molybdenum iron cylinder block.

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24" HEIGHT—Plenty of room! Work "sitting-up"—you should—rather than "lying-down" on a creeper.

SPACE-SAVING—complete group requires only 21 1/2 feet. Rack is just 16' long! Will handle the smallest or biggest (5' wheelbase) passenger car—also light trucks.

EASILY-INSTALLED ANYWHERE—ground floor, basement or upper level. Rack can easily be relocated, if desired. Saves the cost of a pit.

SPECIAL COMPRESSOR NEEDED—rack will lift 7000 vehicle at 150 lb. air pressure.

NOTE "PUSH-BUTTON" CONTROL—allows easy, "one-man" operation from the vehicle. Large mirrors on cabinet for checking driving on and off rack.

POSITIVE SELF-ACTING LOCKS—offer guaranteed safety while working under car. Safety chocks prevent vehicle from rolling when rack is lowered.

EASILY & EASILY ADJUSTABLE—on large, easy-to-turn casters. Will handle 40" to 68" tread widths.

A-TYPE JACK STANDS—support air-jacks for "clear over-aisle" movement under the car—no obstructing jack beams!

MOVABLE RUNWAYS—provide unobstructed working-space all-around the tire-wheel and suspension-system areas. Longer runway sections available for servicing ambulances, special vehicles,

INDEPENDENTLY-SPRUNG REAR WHEELS—are easily settled in normal driving position without moving or turning around.

OFF-CENTERING PEDESTAL WHEEL-ALIGNERS—automatically position front wheels for turnplates when you drive-on.

FREE WHEELS—hang free for compen-

ing and other wheel services.

Now ONE RACK For All These Other Undercar Services, Too!

Here's the newest and most-versatile rack available on the market! Hunter's superior engineering offers you a new power-rack which not only is the ultimate for aligning operations, but is made-to-order for all your money-making under-the-car and wheel services . . . replacement of mufflers, tail-pipes, shock-absorbers and brake-linings, tire-work and the installation of front-end replacement parts! You'll keep this new Hunter LINE-A-LIFT rack busy full-time making extra-profits and satisfied "come-back" customers. Write today, or call your Hunter jobber, for all of the exciting details.

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 Please send complete information on the
 • ☐ Hunter DeLuxe Tune-In Wheel Balancer
 • ☐ Hunter Lite-A-Line Wheel Aligner

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qual that of a car
clutch and trans-

rican automatic
ears ago or more
n versions, the
is operated by en-
rather than vac-
with some of the
types, it eliminates



Added to 1962 Classic series is this two-door sedan, offered in 400, Custom, De luxe versions

CHAMPION

EXCLUSIVE MONITOR

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equipment against
automatically discon-
compressor when the
ps below normal op-
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PNEUMATIC
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PRINCETON 3, ILLINOIS

MPRESSORS

completely the need for a clutch pedal.

The clutch has a conventional disc and pressure plate, but the levers have been rearranged so that they engage the clutch, instead of releasing it as in the usual design. With the engine shut off, the clutch is released.

As the throttle is opened, with the transmission in first gear, engine oil pressure, increasing with speed, flows through a control valve to a servo. Pressure against the servo piston operates the linkage to engage the clutch. Oil pressure is modulated by a valve controlled by a vacuum diaphragm. At high torque, when manifold vacuum is low, oil pressure to the clutch is increased. At light load, high manifold vacuum acts on the diaphragm to reduce oil pressure.

Operates Solenoid

When gears are shifted, initial movement of the shift lever closes a switch on the steering column to operate a solenoid. The solenoid controls a valve which releases oil pressure to the servo and allows the clutch to disengage. When the shift has been completed, the electrical circuit is broken and oil pressure again is supplied to the servo.

For parking in gear, the clutch can be engaged manually by a knob under the instrument panel. This knob is connected to the linkage of the transmission by a cable.

All Ramblers continue to offer a choice of manual transmission, overdrive or automatic. A new, more compact automatic on the American and Classic has a smaller torque converter, which is said to reduce hydraulic spin loss and to

[CONTINUED ON PAGE 180]

MOTOR, October 1961

PURITAN[®]
HYDRAULIC
Brake Fluid

PURITAN
HYDRAULIC
Brake Parts

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Profit-Pair Make You Money

The Puritan Brake Products line will help you capture hydraulic brake work going past your door. You can get into this profitable business by simply contacting your jobber for Puritan details.

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A Puritan Extra: I
an improved numl
tem for easier inve
trol plus a tamper-p
to save you time an

ffers Clutch

page 178

ed to the torque char-
the 6 cyl. engine.
king system with tan-
cylinders is standard
s. The rear cylinder
ont brakes, while the
is connected to the
Each master cylinder
filler. Should either
brakes fail, due to loss

of fluid, the other pair will still op-
erate. Self-adjusting brakes are now
standard throughout the line,
while power brakes are optional.

Chassis lubrication interval has
been extended from 1,000 to 33,
000 miles on the Classic 6 and Am-
bassador V-8. On the American, it
has been increased to 2,000 miles.
Oil change period has been length-
ened from 2,000 to 4,000 miles on
all models. Automatic transmission
fluid changes are now recommend-
ed at 25,000, rather than 15,000
miles. Manual transmissions re-

quire no periodic drain and refill.

A factory fill of coolant, guaran-
teed for 24,000 miles or two years,
is optional at extra cost. Batteries
are guaranteed for the same period
and are said to require water only
three or four times a year.

The Ambassador V-8, now
mounted on the 108 in. wheel-
base of the former Classic V-8, re-
tains its 327 cu. in., 250 hp engine.
With four-barrel carburetor and
9.7-to-1 compression ratio, the pow-
er-pack version of this engine puts
out 270 hp.

The Classic 6 cyl. engine with
aluminum block will be standard
on 400 models and optional on
Custom and De luxe models, which
will use the cast-iron version of the
same engine as standard equip-
ment. The L-head engine contin-
ues as standard on the American
Custom and De luxe, with the over-
head valve powerplant optional on
these models and standard on the
400.

Suspension Changed

Front suspension has been rede-
signed on the Classic and Amba-
sador. A single lower control arm
with outer ball joint replaces the
double arms used previously. A
rear-facing strut controls fore-and-
aft movement of the wheel. The
Ambassador employs a sway bar at
the front.

Road clearance has been in-
creased to 7 in. on the Classic and
Ambassador and 6 $\frac{3}{8}$ in. on the
American. Shock absorbers with

[CONTINUED ON PAGE 182]

QUE TESTED STARTERS



actory Rebuilt Starters are proven for performance by
own specially developed "Torque Test." This is a mul-
tistep procedure which includes: 1 - A free-running test,
2 - A load test, 3 - A lock test.

ests are calibrated in foot pounds of torque. They meas-
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tual service and match OEM specifications.

arrow Starter must pass the "Torque Test" before leaving
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standard of quality... every Starter (and every Generator)
is proven fit for service before it is shipped.

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MOTOR, October 1961

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DU PONT MOISTURE GUARD

starts wet engines

It's a versatile new product that actually gets under drives out moisture from wet ignition systems. Moisture Guard also deposits an invisible, protective film that is an excellent corrosion barrier on metal surfaces. In addition, Moisture Guard is one of the best penetrating lubricants ever made. It's in a handy spray can. Hundreds of uses for the car and home.



Moisture Guard eliminates shorting from humidity or water. Removes moisture from spark plugs, distributor and entire ignition system.



Moisture Guard prevents metal from rusting and corroding, protects fenders, chrome bumpers, home shop tools and battery terminals.



Moisture Guard is a penetrating lubricant, that loosens rusted fittings, bolts, screws and locks.



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... THROUGH CHEMISTRY



DU PONT NO "7" PRODUCTS

Every service station or garage has hundreds of uses for this product. It's in a glove-compartment size for easy sales. Order from your jobber.

ffers Clutch

page 180

springs are optional can.

g idler arm and bush-
merican have been re-
duce steering effort.
reason, steering ra-
odels have been in-

ipping process to pre-
is continued. For

greater protection, 1962 models of all series have galvanized rocker panels.

A new option is the Lounge Tilt front-passenger seat. A hydraulic pump, actuated by a handle on the right side of the seat, raises and tilts the cushion. The tilting mechanism is available with individual reclining seats of the conventional type or reclining bucket seats.

Optional headrests, previously offered only on Classics and Ambassadors, are now available on the American.



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Silver Beauty

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HOOD IS LITTLE SILVER BEAUTY PACKAGE OF POWER
TO CHARGE A BATTERY UNDER ALL CONDITIONS**

even a soaking — doesn't
either does engine heat.
ts any installation. Out-
terminals for permanent
battery. Wrap-around

cord holder for extra convenience. For
12-v systems, delivers 2 amps or trickle.
Puts starting charge in dead battery in
less than ½ hour, full charge overnight.
Triple-A Specialty Company, Chicago



NO TROUBLE FOR THE BATTERY BUT THE BATTERY ITSELF!

The side-hinged rear door is continued on the Classic and Ambassador three-seat station wagons and is optional on two-seat models. Opening angle has been increased from 75 to 90 deg. for easier loading.

New this year is a two-door sedan in the Classic series. It is offered in 400, Custom and De luxe models. A four-door sedan and two-seat station wagon in each of these three grades, plus a three-seat wagon, brings the total of Classic models to 10.

The 12 American models include a 400 convertible and two- and four-door sedans and station wagons in 400, Custom and De luxe versions.

Custom and 400 four-door sedans and two-seat wagons, plus a three-seat wagon, make up the Ambassador series.

THE END. NOW TURN BACK TO PAGE 62

Tips on Installing Tempered Glass

continued from page 42

operate smoothly and reduce the possibility of damage. It is well to remember, breakage occurs more from damage to the edges than from striking the surface.

All these measures are necessary because of the way tempered glass is made. The sheet, after it is cut, is subjected to controlled heating in a furnace, followed by rapid cooling with jets of air. Since the outer surface cools more rapidly than the inside of the glass, stresses are set up in the glass sheet. In the event of a blow severe enough to cause breakage, the total area of the glass breaks up into relatively tiny fragments. These small pieces have no sharp edges or corners.

This is quite different from the process used for laminated glass. This is made by sandwiching a sheet of clear plastic between two sheets of glass. Should a break occur at any point in the glass, the plastic interlayer will hold the fragments together and minimize the amount of shattering and scattering of loose particles.

The chances of mishap can be kept to a minimum, if extra care and special precautions are heeded when installing tempered glass.

THE END. NOW TURN BACK TO PAGE 43

Dealers know that

SALES BEGIN

IN THE EXCITING OCTOBER PM

Your customers are whetting their appetites for automotive news in this month's **POPULAR MECHANICS**. They're reading about the '62 models in the colorful, informative and complete automotive section of America's dealer-oriented consumer magazine. They are reading:



1. detailed descriptions, with pictures of 26 models.
2. about the first road test (1,100 miles) by PM editors of the new V-6 Buick Special.
3. a depth story on the "Chevy II," New GM compact.
4. and the colorful fold-out cover that dramatizes the launching of another banner year of automotive news in PM, and signals a new, big year of sales for dealers.

Yes, your customers are reading the October PM. That's where they get their ideas on what to do, what to buy—and why. That's where sales begin.

Leading automotive manufacturers back up their dealers with product advertising in **POPULAR MECHANICS**, the magazine read by five million automotive-minded men. Their advertising can mean sales for you when you stock and recommend brands your customers read about in PM. Let PM build sales for you. Read it and use it regularly.

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IT'S WORKING LENGTH

Working length of up to 23 feet,
Self-Storing Air Hose retracts auto-
matically to a storage coil only 9 inches
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Due to a special Nylon formulation,
it is lighter and less bulky than rub-
ber for air-driven equipment —
fixed installations. It is kink
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oil. Micro-finished bore and
reusable fittings assure unob-
structed flow to 200 psi.

With 1/4" I.D. (S8) and 3/8" I.D.
in orange color gives high visi-
bility. Full details on request.

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SYNFLEX

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Mantua, Ohio

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9"

Dodge Adds Compact Truck



Compact forward-control Dodge chassis with
104 in. wheelbase, designed for delivery in con-
gested areas. Inclined 140 hp, 6 cyl. engine
is standard, with 101 hp powerplant optional

Capital Close-Ups

continued from page 49

problems because it does not make its own bodies or
other important parts. In any event, Chevrolet deal-
ers need not worry. Court proceedings are expected
to last five years.

Electronic Highway Foreseen

Prospect of an electronic system to guide cars au-
tomatically and safely on the highway is no longer a
remote dream. Secretary of Commerce Luther H.
Hodges recently told highway engineers from 21 na-
tions, attending a world meeting in Washington, that
Commerce researchers are studying a system that will
steer and stop cars at speeds up to 100 mph.

Equipment has already been developed to attach
to the undercarriage so as to control steering, accel-
eration, and braking. Hodges predicted the robot meth-
od would eliminate accidents, and even allow motor-
ists to take a nap while rolling along a turnpike.

Various automatic highways systems are being test-
ed, some involving use of existing roads and others
requiring a special right-of-way to carry vehicles on
moving pallets. Because of the high cost of equip-
ping highways, electronic motoring is likely to be con-
fined to heavily traveled superhighways.

Shorts

U.S. Government cuts its car-buying costs by using
cars seized by law-breakers. Internal Revenue Service
fleet includes nearly 100 confiscated vehicles, and
Commissioner Caplin's 1958 Lincoln used to belong
to a Virginia bootlegger . . . A Plymouth dealership
in Wilkes-Barre, Pa., the Roddy Co., lost a Tax
Court decision involving tax treatment of deprecia-
tion of cars leased by a subsidiary, but sold as used
cars by the dealership. The court agreed with IRS
that profits from resale should have been reported as
ordinary income, not as a capital gain.

THE END. NOW TURN BACK TO PAGE 50

BIRD BONUS BUY



ALL-PURPOSE
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1573 NIAGARA ST., BUFFALO 13, N. Y., U.S.A.
Manufacturing Fine Quality Tools for Over 60 Years

Two-Passenger Thunderbird Bows

continued from page 63

knock-off hubs. From the padded headrests for the driver and passenger, the fiberglass cover slopes downward to the rear deck. The center section is depressed. A grab rail under the instrument panel gives the passenger something to hang onto during hard cornering.

The swing-away steering wheel, introduced as an option in 1961, is now standard on all models. Heater and air-conditioning controls have been moved from the instrument panel to the center console.

Water Heats Intake

The standard 300 hp engine is equipped with a four-barrel carburetor. The manifold heat control valve has been eliminated. While some exhaust gas still flows through the intake manifold crossover passage, additional heat to aid vaporization and prevent carburetor icing is provided by a water-

heated aluminum spacer between the carburetor and intake manifold.

A new throwaway fuel filter is located between the fuel pump and the carburetor. Recommended service interval is 30,000 miles. The oil filter bypass valve has been moved from the bottom to the top to prevent recirculation of sludge through the engine, if the filter becomes clogged.

The optional 340 hp Thunderbird engine has a compression ratio of 10.5 to 1 and is equipped with three two-barrel carburetors.

Aluminized steel and stainless steel are used in mufflers and resonators of the dual exhaust system for protection against corrosion.

Changes in the rear suspension are designed to reduce transmission of road noise and harshness into the body. A large rubber bushing at the front of each rear spring permits limited fore-and-aft movement of the rear axle to absorb road shock. The rear springs are attached to the axle by rubber-and-metal insulators. Butyl rubber pads inside the two-piece box section

housing isolate the axle. The metal housing prevents expansion of the rubber by tightening of U-bolts.

A new and larger rear axle reportedly reduces road noise. Linings are stressed for increased durability and fade. To prevent drumming, stress-relieving them after castings machining. Brake backing plates are stressed to increase durability and prevent sticking due to corrosion.

THE END. NOW TURN

Love Named Board Chairman

George H. Love, executive committee chairman of the board, is the new policy officer of the

Lynn A. Townsend continues as president and chief administrative officer of the corporation.

good points to remember!

KEM

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- FOR ALL CARS

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Quality,
Functionally
Speed!

UNIVERSAL JOINTS

QUICK TAKE-OFF JOINTS



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in 3 minutes you can remove and
replace the most stubborn axle bearing



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**HAWKINS
Axle Bearing Press**

Here is a simple, inexpensive, time-saving tool for removing and replacing pressed on type rear axle bearings . . . even on axles where the outer race and balls have been broken away.

Hawkins AXLE BEARING PRESS can be used on all American-built cars and trucks (through 3/4-ton) and on many foreign cars.

This is a mechanic's dream. The bearing is completely enclosed during the service operation by the pulling adaptors and thus assures absolute safety for the operator.

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Complete kit forged from high grade tool steel. Liberal Discounts to jobbers.

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\$78.50

More Power for Minx



Piston displacement has been increased from 91 to 97 cu. in. on Hillman Minx 1600. Top horsepower is 56.5. Replacing De luxe and Special, new model is priced at \$1,699 at port of entry

Lark Daytona Series Bows

continued from page 62

increased from 175 to 184 in. All four-door sedans and station wagons now have a wheelbase of 113 in., an increase of 4 1/2 in. for Regal and De luxe four-door sedans. Over-all length has been stretched to 188 in. In 1961, the Regal and De luxe four-door sedans measured 175 in. while the Cruiser was 179 in. long. The station wagon's 187 in. length is 2 1/2 in. more.

Front and rear-end styling is new. The grille has a different look, while the rear end has taken on a more rounded appearance.

The frame of all models except the station wagons has been lengthened by 3 in. at the rear. Steel gauge has been increased on four-door sedan frames.

A new gasoline tank in all Larks except station wagons has a vented filler neck at the center.

Inserts between the tips of rear spring leaves replace the full-length inserts used previously. An insulator between the spring and pad cuts down the transmission of road noise. Capacity of the front coil springs on 6 cyl. models has been increased.

Lower Compression Ratio

Compression ratio of the 6 cyl. engine has been lowered from 8.5 to 8.25 to 1. The former ratio is now optional. Standard compression ratio of the V-8 is 8.5 to 1, compared with 8.8 to 1 for 1961 models. Optional ratios are 8.8 to 1 and 7.5 to 1.

Both engines have new water pumps. The pump shaft has been shortened, resulting in more even distribution of bearing load. Diameter of the radiator inlet hose on the 6 cyl. engine has been increased from 1 1/4 in. to 1 1/2 in.

The dry air cleaner element of the 6 has been almost doubled in capacity for longer service life. A new location for the crankcase breather tube is said to provide more effective ventilation.

The new clutch housing has a larger release shaft boss. The same release shaft is used with 6 and V-8 engines. Transmission synchronizers have been redesigned for more positive operation. The transmission remote control assembly has also been revised to reduce vibration and rattles.

A new rear support insulator and bracket for

engines coupled to standard and overdrive transmissions is designed to decrease driveline noise and vibration.

Mufflers are made of aluminized steel for increased resistance to corrosion.

Front door window regulators on sedans and station wagons have new gear ratios, permitting windows to be raised or lowered with fewer turns of the crank. Regulators in hardtops and convertibles have been redesigned for easier operation.

In addition to the hardtop and convertible in the Daytona series, Lark offers the Cruiser four-door sedan, Regal four-door sedan, hardtop, convertible and station wagon and the De luxe four-door sedan, station wagon and two-door sedan.

THE END. NOW TURN BACK TO PAGE 63

2,000,000 Cars Have Seat Belts

A recent nationwide poll of seat belt installation and use indicates that over 2,000,000 automobiles in the country are now equipped with seat belts. The poll, conducted during May and June in connection with the National Vehicle Safety-Check program and compiled by Auto Industries Highway Safety Committee, showed that 3.3 per cent of all cars checked had seat belts.

Of those cars equipped with seat belts, 73 per cent of the drivers replied as follows to questions regarding seat belt use: 34.5 per cent always use seat belt, 37.3 per cent use on long trips only, and 29.4 per cent seldom use seat belts.



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MANUFACTURER OF MICROMETER DIAL GAUGES AND MICROMETERS

With Special

from page 56

5 lb.-ft. at 2,400 rpm. An compression ratio permits regular fuel.

gine is equipped with a carburetor and the air s a polyethylene element shable. Crankcase oil ca-qt. The difference in the pulses on the 90 deg. V-6 ed in the torque con-

verter in vehicles with automatic drives, and by using a heavier fly-wheel with standard transmissions.

The compact design of the V-6, with its short crankshaft, is said to make possible a lighter, more rigid powerplant than the in-line 6. The new engine is reportedly from 140 to 179 lb. lighter than current in-line 6's of comparable power output.

The 215 cu. in. aluminum block V-8 engine, with a two-barrel carburetor and 8.8-to-1 compression ratio, is standard on the 4100 De

Luxe series. Power output is hp at 4,600 rpm, and torque lb.-ft. at 2,400 rpm.

The 215 cu. in. engine with f barrel carburetor and a low-b pressure exhaust system is standard on the 4300 Skylark series. powerplant, which develops hp at 4,600 rpm, and 230 lb torque at 2,800 rpm, is also available as an option on the 4000 4100 series cars.

Gears Quieter

The Dual Path automatic transmission, optional on all models, is basically the same as last year's unit. However, the planetary set located in the converter has been changed to improve quietness of operation in Park and Neutral. This has been accomplished by making the gear teeth slightly larger and increasing the number of teeth in the pinions from 15 to 16. The synchromesh transmission, which is standard on the three series, is unchanged from last year.

A new option is a four-speed manual shift transmission, fully synchronized to permit shifting up or down into any forward speed without double clutching. The gearshift control is floor mounted. Gear ratios are 2.54 in first, 1.9 in second, 1.51 in third, and direct fourth. Reverse is 2.6 to 1.

A rubber-mounted transmission support, introduced on the Skylark in 1961, is used on all models in 1962. This support, in addition to carrying the rear engine and transmission rubber mount, is itself isolated from the body side rail by means of four soft rubber bushings.

Locking Rear Optional

Rear axle ratio is 3.36 to 1 with manual shift transmission, and 2.54 to 1 with the Dual Path automatic. A positive traction differential is available as an option in 1962. It is similar in design to the unit which has been used since 1959 on the larger Buicks. However, the size of the positive traction unit is reduced to make it suitable for installation in the Special.

Power brakes are also available optionally on Specials equipped with an automatic transmission. The power unit is an atmospheric, vacuum-suspended type, with ample vacuum reserve capacity in a separate reservoir.

[CONTINUED ON PAGE 1]

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★ REPLACEABLE CARTRIDGE

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READINGS ALWAYS* LEGIBLE!

No. 1200 Series

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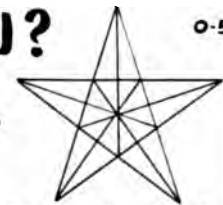
HOW GOOD ARE YOU?

How many triangles does this star contain?

Circle the answer below:

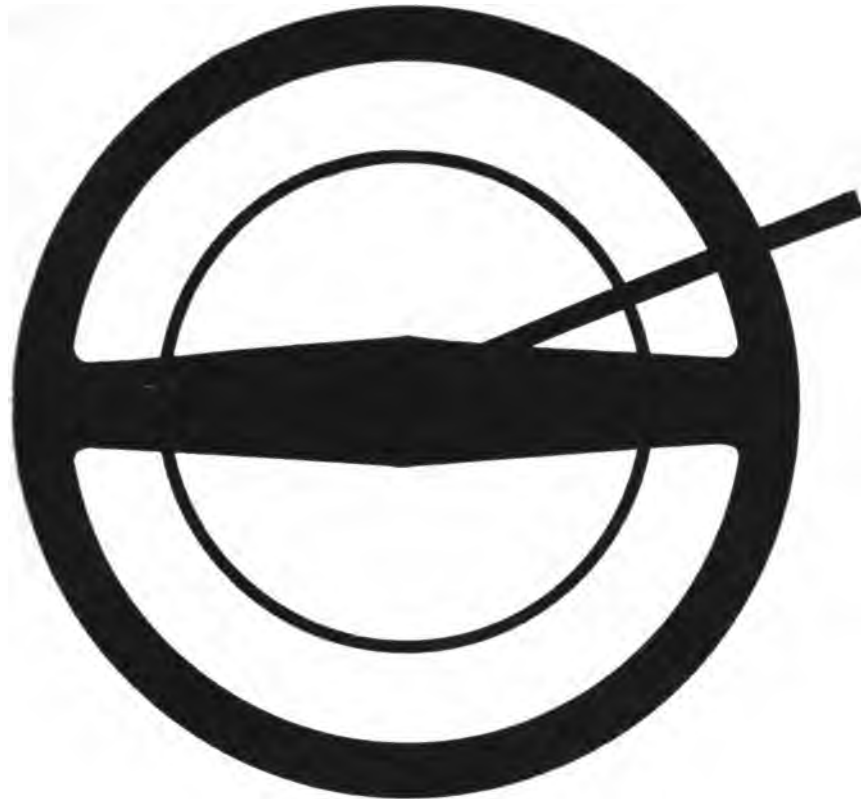
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Attach the solution to your business card or letterhead and mail. If you're right, we'll send you a "Genius Award" for your accomplishment!



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*HOUSE BEAUTIFUL SUBSCRIBER SURVEY ***

**With
dial**

page 188

is similar to the power-on the larger Buicks. Advantages of this type it breathes clean air senger compartment, om the engine do not ternal working parts. power brake, knee the steering wheel is lowering the actual-

ing pedal to a level approximately in line with the accelerator.

A number of suspension changes have been made to improve the ride and reduce noise. Rear shock absorbers have larger upper bushings and both upper and lower bushings are softer. The rear upper control arm is made of heavier stock and thinner shims are now provided to obtain a more precise adjustment when installing the rear suspension.

Rear spring rates on the sedan and coupe have been reduced

slightly to improve ride balance. The front crossmember has been stiffened by increasing the flange and the number of welds between the upper and lower stampings. Two-ply tires, 6.50 by 13, are used.

For 1962, four body styles will be available in the Standard series. These are a four-door sedan, four-door station wagon in both two and three-seat versions, a two-door thin pillar coupe, and a two-door convertible with manually-operated top. In the De Luxe series, a four-door sedan, four-door two-seat station wagon, and two-door convertible with power-operated top are offered. The Skylark, introduced as a thin pillar sports coupe in the spring of 1961, is changed to a pillarless sports coupe for 1962.

All Special models have the Skylark front end styling, using a chrome-plated, die-cast grille with horizontal bars to emphasize width. Rectangular front fender vents are used on all models. Rear seat leg room is increased on Standard and De Luxe sedans by moving the rear seat back 1½ in. All 1962 Specials, including the Skylark, are equipped with a heater and defroster as standard equipment.

THE END. NOW TURN BACK TO PAGE 57



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Holt Elected Chairman Of Safety Group

Victor Holt, Jr., executive vice president of Goodyear Tire and Rubber Co., has been elected chairman of the board of directors of the Auto Industries Highway Safety Committee. He succeeds J. B. Wagstaff, recently retired Chrysler Corp. vice president.

Charles F. Moore, Jr., vice president, Ford Motor Co., was elected vice chairman and Lyle O. Remde, Omaha, Neb., first vice president of the National Tire Dealers and Retreaders Assn., was named secretary-treasurer.

Dealers Provide Loan Cars

During the 1960-61 school year in the country's high school driver education courses, 12,246 cars were used for practice driving instruction. Of this total, 6,711 were provided on a free loan basis by new car dealers.

Cadillac Offers Dual Brakes

continued from page 57

nearly to the top. The small opening at the top of the baffle permits fluid level to be equalized between the two chambers. Should leakage develop in either a front or rear line, only the chamber supplying that line would be emptied, as the baffle would prevent the escape of fluid from the other chamber. Each chamber has its own filler cap.

The booster is now vacuum-suspended, rather than atmospheric-suspended as in previous models. The vacuum reservoir is integral with the booster, eliminating the separate reserve tank and giving faster response to pedal movement, according to Cadillac.

The vacuum-operated parking-brake release, introduced in 1961, is continued. A new diaphragm is said to give easier release and more positive locking.

For better visibility when turning at night, a "cornering" light throws a steady beam from the headlamp housings at an angle of 40 deg. to the centerline of the car. The light is actuated by the turn signal lever whenever the headlights or parking lights are on.

Rear Lights Combined

All rear lights are combined in two housings—one at each end of the rear panel. A clear lens is used in each. Filters convert the light to red for taillights, stoplights and turn signals.

Fuel capacity has been increased from 21 to 26 gal. on all models except the short-deck Town Sedan and Park Ave. Sedan. These two cars, which are 7 in. shorter than other body styles in the 62 series, retain the 21 gal. tank.

Front spring rate has been low-

ered and shock absorbers revalved to give a softer ride. Additional sound-deadening material under the floor pan, in the cowl and under the roof contributes to quieter operation. Exhaust line mountings have been changed to reduce transmission of noise into the passenger compartment.

The 390 cu. in. V-8 engine is basically the same as the powerplant used in 1961 models. Main bearings are now selectively fitted to control tolerances more closely for quieter running and greater durability.

Compressor Is 6 Cyl.

The air conditioning compressor is a 6 cyl., horizontally opposed type. Although it has more capacity than the previous unit, it is said to be lighter and quieter.

The Cruise Control has been simplified and now employs a wheel-type control, instead of a knob, to preset cruising speed.

A heater is now standard equipment on all Cadillacs.

Vinyl backing on the interior rear-view mirror and vanity mirror prevents the glass from shattering in case of impact. Seat belt anchor positions are reinforced and drilled for easy installation.

Bucket seats, already available on both convertibles, are also optional in the Coupe de Ville, Park Ave. Sedan and four-window Sedan de Ville for 1962.

The new Cadillac line includes nine-passenger sedan and limousine in the 75 series and a Fleetwood Sixty Special Sedan in the 60 series. The 62 series is made up of the Coupe, Coupe de Ville, six-window Sedan and Sedan de Ville, the short-deck Town Sedan and Park Ave. Sedan, the four-window Sedan de Ville, the convertible and the Biarritz convertible.

THE END. NOW TURN BACK TO PAGE 58

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MOTOR, November 1



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AS **MOTOR** GOES TO PRESS

Last-Minute News . . What It Means . . What's Ahead

November to Provide True Market Picture

Now that the last of the labor squabbles has been patched up, car dealers can be expected to get a true feel of the market for 1962 vehicles. Up until now, strike-created shortages have helped stimulate business and improve individual deals. Almost all dealers made money in October and should be able to finish the year well in the black.

Month's Output Goal Is Highest in Year

At peace with the United Auto Workers for the first time in over two months, car factories will try to make up production losses. November schedules aim at 685,000 units, highest for any 1961 month. Strikes forced last month's run down 90,000 to a 560,000 total. Ford suffered heaviest loss.

Sales Not Shared Equally by Dealers

Over-all sales were strong in October - 522,000 total - but the figure was hurt by a few weak performers. Makes which carried over strong identification from 1961 enjoy strong demand. Other brands go great in some areas, flop in others. Dealers handling brisk-selling brands believe they could have boosted sales if wanted models had been available.

Better Deals Up Retailer Profits

Dealers handling the lines that have made a hit with buyers may have had their most profitable month in October. More gross was retained on the average than for months past and savings in floor-plan expense have been considerable.

Dealer Stockpiles Pared by Strike

Dealer inventories early this month were a tight 698,000. Retailers in a couple of lines are loaded but most would like more stock. Certain Ford products and Chevy II are scarce. Factories may take a month or more to refill stockpiles.

Used Car Sales Up, Prices Hold

Used car prices snapped back after a \$50 setback the previous month. Both factories and dealers expected October to bring a new drive on prices but it did not. Sales increased somewhat over September but were below last summer's high marks. Inventories of used units are sub-normal - under a 25-day supply - and more dealers than usual are buying for stock.

Goodman, Cole Move Up in GM Shifts

James Goodman, vice president of the body and assembly groups of General Motors, in charge of Turnstedt, all B-O-P operations and Fisher Body, has taken the place of S. E. Skinner as executive vice president of the corporation. Edward N. Cole, former Chevrolet boss, becomes a corporation v. p., in charge of all car and truck divisions. S. E. Knudsen moves over from Pontiac to take Cole's place at Chevrolet. Elliott M. Estes, former Pontiac chief engineer, assumes Knudsen's old post.

Special Order Cars Get Green Light

A few makers, Ford in particular, are permitting dealers to designate whether a vehicle is a customer order or intended for their inventories. If the unit is a customer order, production is expedited. Inventory merchandise takes longer. Dealers say that they are highly pleased with the arrangement.

Dealers Being Cut Out of Fleet Deals

The car factories are cutting themselves in more and more on fleet and lease deals, taking business away from their retailers, although individual dealers, dealer councils and associations appear to be blind to what's happening. As noted here previously, at least two producers, Ford and Chrysler, have entered into deals with fleet-lease firms in which the factories guarantee resale value of the vehicles.

Retailers Lose Service Business

In other instances, when fleet orders are delivered through a dealer, the factory dictates to the dealer what his markup will be. His cut is invariably far

below list. As majority of fleets maintain their own service facilities, deals also represent a loss of service business for dealers. So long as dealers fail to protest, factories can be expected to delve deeper and deeper into this lucrative phase of the business.

Gran Turismo Price Jolts Dealers

Studebaker dealers who looked to do substantial business with sports car buyers with their new Gran Turismo Hawk fear the much higher price tag on the car - a hike of \$500 including tax - rules out any hope of doing volume business with the unit. Dealers were jolted by the size of the price increase and some merchants who quoted tentative prices ahead of announcement found themselves in an embarrassing position.

Search for Dealers Prompts New Ideas

Underscoring the acute shortage of dealers are these gambits by factories seeking to solve the problem: (1) American Motors offers to guarantee two-thirds of any loans advanced to its retailers (new or old) by banks or finance companies; (2) Chrysler is entering into more lease situations - deals where the factory sets up and equips a facility and then leases it to a dealer; (3) a few factories are letting its aggressive operators set up chain store outlets in areas where local talent is not available.

Suit May Let GM Blast Discount Myth

Aside from the obvious and larger issues involved in the Los Angeles indictment of General Motors for allegedly restraining trade, the upcoming trial could benefit all dealers if GM is given an opportu-

ty to explode the myth that a magical phrase "discount use" means lower prices. This erroneous notion is long overdue for a public airing and GM, answering the Justice Dept. complaint, indicates it will stress the point at the trial.

Backs Scheduled Two Factories

While factory executives continue to talk boom, production managers who correlate output with sales are scheduling cutbacks at some plants as soon as pipelines depleted by strikes have been refilled. A few factories would have slowed down output before this if strikes had not put a crimp in stocks.

Pontiac Battling Oust Rambler

Pontiac is pushing hard to take third place in sales from Rambler by year end. Interest in this race has now eclipsed the Chevrolet-Ford contest.

General Motors Fight Cardinal

General Motors reportedly has a scaled-down Corvair and an entirely new entry, ready

to throw at Ford's minicar, Cardinal, when the latter production reaches dealer salesrooms in fall. GM will not market two versions, but will swing in the direction indicated by intelligence (spy) reports on Cardinal. The production timetable on Cardinal, as noted here in July, still stands. The first pilot model is due next May.

NADA Meeting to Hear Task Force for Day

Unquestioned highlight of National Automobile Dealers Association convention at Atlantic City, Feb. 3-7 will be a whole day program by the Task Force which has been fighting so successfully for dealers this year. In the morning, force members will speak. The afternoon session is to be devoted to questions.

Delayed Billing Saves Three-Fourths

Fifteen-day billing, adopted by car factories recently, already paying off handsome dividends for dealers. One medium-sized retailer reports a total of \$400 in floor-plan interest saved in October, instead of his previous average of \$1,800.

But Some of the hot-shot merchandisers started advertising "factory demonstrators" and "factory officials' cars" before 1962 models were a month old....Buick merchants report excellent business with their V-6 Special....One Ford assembly plant, shut by a three-month strike, produced the last 1961 models a month after 1962 cars were out....Oldsmobile dealers will not get volume deliveries of that company's turbocharged engine option until after first of the year, although jobs should come through by mid-December....Those gold-colored Chevrolets, produced to tie in with the company's 50th anniversary, are nailed to the floor. Factory made only enough to supply one per dealer. Dealers can sell them end of this month, but it will be the end of the batch....A dealer, in Midwest, who saw a last full month of the new model year drop from 26 deliveries last season to 11 sales this year, advocates that Detroit stylists be required to spend a month on the showroom floor, "So they know what mistakes to correct next year."....Scheduled for January a 260 cu. in. V-8 for Fairlane and Meteor, an enlarged version of the 221 cu. in. engine now available.

Service Volume At High Level

Despite a lack of cold-weather work, service volume is running at a somewhat higher level than at this time last year. Complaints are heard that car owners, especially of new cars, are depending upon free service to keep their vehicles rolling but this obviously is not sufficient because in hundreds of dealer shops and many garages work can be had only by appointment. Volume and profits are running at the same pace as before the 12-12,000 warranty was dreamed up. Most shops expect volume to rise sharply with cold weather.

Antifreeze Keeps Jobber Sales Down

Given the same total of antifreeze business as they did in 1960, most wholesalers would be well ahead of a year ago. The loss of antifreeze business to all kinds of discount and non-trade outlets is keeping jobber sales below 1960. Other cold-weather goods will help as soon as fall gets down to work. Confidence rather than optimism is the prevailing tone.

More Chains Seen In Jobber Field

Jobbers and their suppliers have not been the only people watching the progress of Gulf and Western in the automotive after-market. Others have been eyeing the efforts to put together a jobbing chain and in at least one instance have begun work on one of their own.

Sees Parts Sales Up Billion in 10 Years

Sales of automobile replacement parts will climb \$1,000,000,000 in the next 10 years, according to Joseph A. Anderson, general manager of the AC Spark Plug Div. of General Motors. This would be at retail. Anderson estimates this year's total at \$5,900,000,000.

FTC Speeds Up Consent Orders

Under new procedures announced by the Federal Trade Commission, firms or persons about to be cited for alleged violations

may avoid long proceedings if a consent decree is deemed advisable. The FTC is permitted under the new rules to notify a defendant that a complaint is to be issued. He has 30 days to decide whether to sign a stipulation. If he does, the case goes at once to the new office of Consent Orders for action.

Compact Comeback Expected Later On

Detroit sales departments believe the slowdown in compact business is a temporary situation. Small cars are currently down to about 35 per cent of the market from a high of nearly 40 per cent a few months ago. Factory numbers experts point out that high-priced deluxe cars always take leadership at the beginning of a model run and comeback of the compact can be expected as soon as the first flush of big car buyers has been satisfied.

Customers Buying Cheaper Models

Analyzing dealer orders in an attempt to get a feel of the public mood, majority of factory marketing experts lean to the belief that customers are still highly price-conscious. Though it is a known fact that costliest cars sell best early in the model year, market analysts note a trend toward voluntary downgrading by customers. That is, customers bringing in trades are replacing their old cars with lower-priced models.

MOTOR



Editorial

Chats and Sales Talks

There is a difference, although a good deal of the gloomy talk about the ruination of the service business by "service free" cars does not make a distinction. Garages and service departments will have fewer chances to talk with customers, the argument goes, and will consequently get fewer chances to sell them.

This assumes that every visit for lubrication has offered an opportunity to sell mechanical service, which simply is not true. More often it has been a chance to chat and exchange views on sports and mutual acquaintances. A car that comes in for an oil change after 4,000 miles is a better prospect for a tune-up than one that was in only 1,000 miles ago. An owner is not going to have his engine reringed every time he has the chassis lubricated.

These facts, together with realization that lubrication is the chief phase of service affected materially so far by the widely publicized pursuit of freedom from service, should dispel the cloud of gloom that has been accumulating.

Brakes, wheel alignment, suspension units, the cooling and electrical systems and the engine itself will continue to wear and develop trouble. Repairmen will still sell their remedial services just as often as they have in the past.

Their lubrication racks may acquire a little rust occasionally but their cash registers should not.

EDWARD FORD
Editor

IS VOLUME SELL

Far from it in the case of the
cally successful dealer discussed he
gets his price as well as custom
methods many another retailer coo

By Robert Lund

Detroit Editor of MOTOR

During a six-month period in the 1961 m
a hard-hustling hotshot, apparently unawar
volume concept supposedly breathed its la
years ago, pushed out a staggering 6,038 au
This figures out to just short of 40 deliveries
each of the 151 selling days during the s
session.

Since the word volume has come to have
connotation for automobile dealers that
strikebreaker has for UAW shop stewards,
mediate impression of a dealer who shoots ca
a rate of 12,000 a year is that of an avaricious
low-collar discounter and all-around knave,
burning the territory for reputable retailers.
is a foregone conclusion that he is destined
up in the poorhouse. Those are the standard

There is no question that this particular m
is taking trade from other dealers. He also goe
hoot and whoop advertising, handles bootleg
and falls short of the minimum requirements



ALWAYS FATAL?

at least in the eyes of factories. The labels apply to this point.

he discount tag does not apply. Not only does Dealer X refuse to discount; he frequently commands higher prices than other merchants in the area—in blatant defiance of the widespread belief that profit and volume are not companionable.

Even if you do not buy the idea that profit and volume are opposites, the high art of huckstering as practiced by a leader in the field of wheel-and-deal is worth a hard, close look. That is not to say that merchants operating on a more modest scale will want to emulate Dealer X. The American militarists who admired the tactical brilliance of Gen. Erwin Rommel, the Nazi field marshal, were not pulling for him to win the war.

His operation is interesting from several angles: from the fact that he is running a big-volume, high-profit store in violation of the rule that says a retailer can't juggle both balls at the same time. His success underscores a curious but understandable idea that has established itself in the public mind, a notion many dealers have yet to detect.

His ability to outsell other dealers without cutting

prices discloses a serious weakness on the part of his competitors. The ease with which he moves bootlegged brands carrying the names and addresses of other dealers on the price stickers points up the poverty of the sticker law insofar as the public is concerned. And, finally, factory reaction to his operation offers a new insight on Detroit's attitude toward maverick merchandising.

The area in which X does business is covered by 333 dealers, including X himself. Of this number, 309 outlets handle domestic makes and imports distributed through American manufacturers. The other 24 firms sell foreign cars exclusively.

X is franchised to sell four brands—Dodge, Chrysler, Simca and Rambler. He also sells other makes without a franchise. Most of his non-franchise business is in Chevrolets.

In the six months when X delivered 6,038 cars, the other 332 dealers in his area sold a combined total of 45,054 units—42,128 American makes and 2,926 imports. Here, by brand name, is a breakdown on how he belted his rivals:

Dodge: X delivered 1,593 cars out of a total of 3,278 vehicles registered in [CONTINUED ON PAGE 150]

There must be a reason why Dealer X's customers travel as far as 40 miles to buy from him, passing up the convenience and lower prices offered by local retailers



Service Tips on New



To make initial tappet setting, remove all lash and then tighten rocker-arm nut one full turn



To adjust Powerglide low band, torque adjusting screw to 40 lb.-in., then back off four turns



For proper bushing preload, rear shackle on single leaf rear spring is torqued 25-35 lb.-ft.

You'll need these procedures to do a fast, dependable job on Chevrolet's "in-between" car

By William J. Moreland

Technical Editor of MOTOR

Repairmen familiar with Chevrolet's 1961 cars have an advantage in servicing the Chevy II because many major components on this new car are similar to those on the year-old bigger cars. There are, however, some new units and many changes in service procedures.

The 100 and 300 Chevy II series are equipped with a 4 cyl. overhead valve engine while the 200 and 300 series have a 6 cyl. engine. Both are new engines with many components similar to those used on previous powerplants. Five main bearings are used on the 4 cyl. engine, seven on the 6. Most valve train components are identical to the 283 cu. in. V-8, with stamped rocker arms and oil feed through holes in the push rods. There is no need of a rocker arm shaft.

Both engines have hydraulic valve lifters. To position the lifter in the center of its travel, set the piston at the top of its compression stroke, turn the adjusting nut until all lash is removed, then tighten the nut one additional turn. Intake valve stem clearance in guide should be .001 to .003 in. and exhaust .002 to .004 in. If the clearance is excessive, ream to take oversize valve stem.

Valve spring pressure should check 84 to 92 lb. with the spring compressed to $1\frac{21}{32}$ in. Replace spring if the pressure is less than 70 lb. Valve spring



Clutch push rod is adjusted to obtain approximately $\frac{1}{8}$ in. play between rod and its housing

Chevy II

installed height, from the top of the shim or spring seat to the top of the spring shield, should not exceed $1\frac{23}{32}$ in. Shim, if necessary, to reduce it. The height should never be less than $1\frac{21}{32}$ in.

To remove the oil pan on both Chevy II engines, disconnect the wires at the starter solenoid and remove the starter. Then disconnect the idler-arm bracket at the right frame rail and swing the linkage down for pan clearance. On the 6 cyl. engine only, remove the front crossmember. Let the stabilizer bar hang when removing the crossmember on a station wagon.

To install the oil pan, place the rear seal in the rear main-bearing cap and the front seal on the timing-gear cover, pressing the tips into the holes provided in the cover. Now install the side gaskets on the cylinder block, using grease as a retainer. The side gasket tabs must index into the notches in the front seal. Last, install the screws in the timing-gear cover. These screws are installed at an angle and the holes will line up after the rest of the pan bolts have been snugged up. Then reverse the removal procedure to complete the job.

Both engines use a two-piece rear-main oil seal of oil-resistant rubber molded over a half circle of steel. The upper half of this seal, unlike the wick-type seal,



Camber is adjusted by loosening front lock nut and turning bolt head. Cam moves control arm

can be rotated easily into place without removing the crankshaft.

The 6 cyl. engine uses a harmonic balancer similar to the Chevrolet V-8 type and is removed in the same manner as on the V-8. Hammering this damper back onto the crankshaft without supporting the pulley will cause damage. A tool is available for the installation.

The 4 cyl. engine has a separate hub and pulley without a harmonic bal- [CONTINUED ON PAGE 178]

What Detroit Is Thinking

By Robert Lund

Detroit Editor of *MOTOR*



Business Was Never Better

Although the new model year is off to a hot start, a couple of car companies had to hold a match under the thermometer to make it rise. The firms concerned have been issuing publicity pieces and lining up interviews with company officials in which the claim is advanced that, based on dealer orders, business has never been better.

Giving them the benefit of the doubt, the claim is

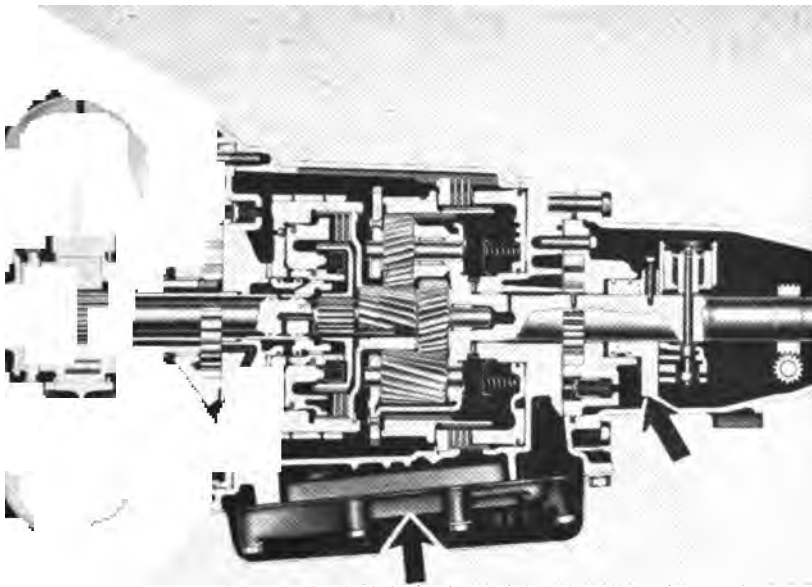
probably true, although it is curious that many makers decline to disclose comparative figures on dealer orders in previous years.

Figures Confidential

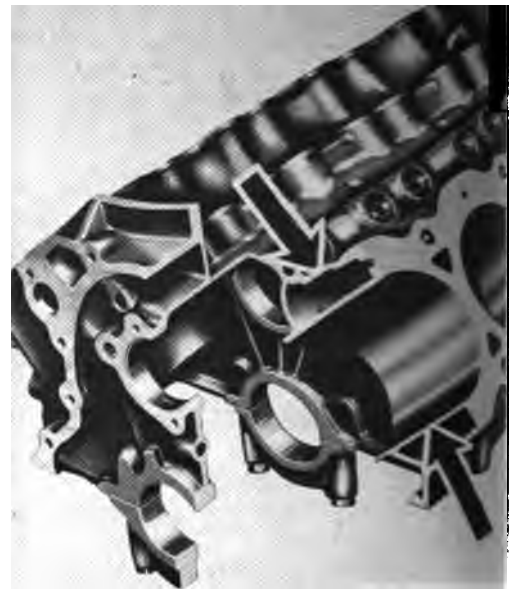
"That's confidential information," the factory fact-keepers parry to discourage the skeptic. But there are other ways of adding two-and-two.

In the case of the two producers involved here (not members of the same parent company, incidentally), at the same time they were dishing out the boom routine, their dealers were carrying an 11-week supply of cars in one instance and a 12-week inventory in the other. This at the outset of a new model season, a boom period, according to factory publicists. So, while the factories were technically accurate in talking boom based on dealer orders, no such surge was taking place at the retail level.

Manufacturers cannot be [CONTINUED ON PAGE 158]

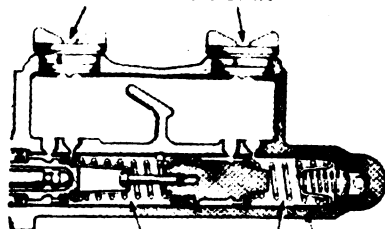


New Powerglide typifies trend to simpler drives. Valve body (arrow, left) has been relocated to ease service. Removal of gear drive simplifies governor (arrow, right)



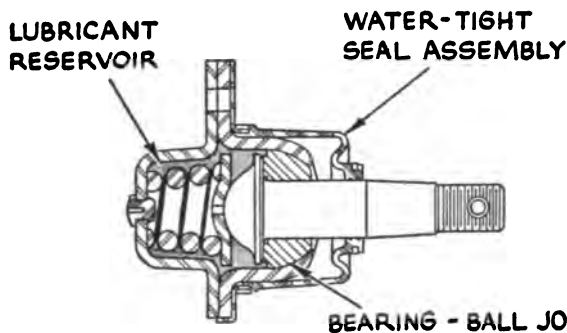
Arrows indicate thin water-jacket sections in new Ford-Mercury V-8, cutting weight of cast-iron engine

TANDEM MASTER CYLINDER
HYDRAULIC RESERVOIRS
FRONT . . . REAR



FRONT . . . REAR
HYDRAULIC BRAKE
PRESSURE CHAMBERS

Dual master cylinder used by Rambler and Cadillac. Device is designed to prevent complete brake loss in case of fluid leakage



Oldsmobile upper ball joint, packed with molybdenum disulphide grease and sealed. Unit is typical of those not requiring periodic lubrication

COSTS TO GUIDE

Engines and automatic drives will be simpler, lighter . . . Rush to aluminum slows down . . . Engineers' goal is capable, durable car at a popular price

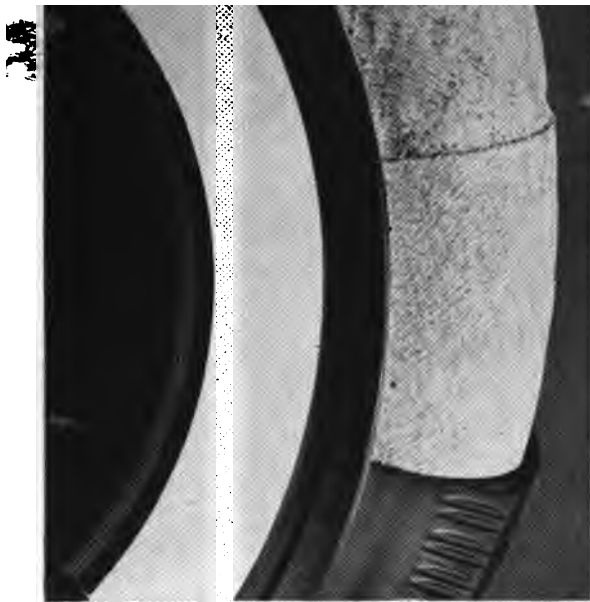
By Walter O. Koehler

Engineering Editor of MOTOR

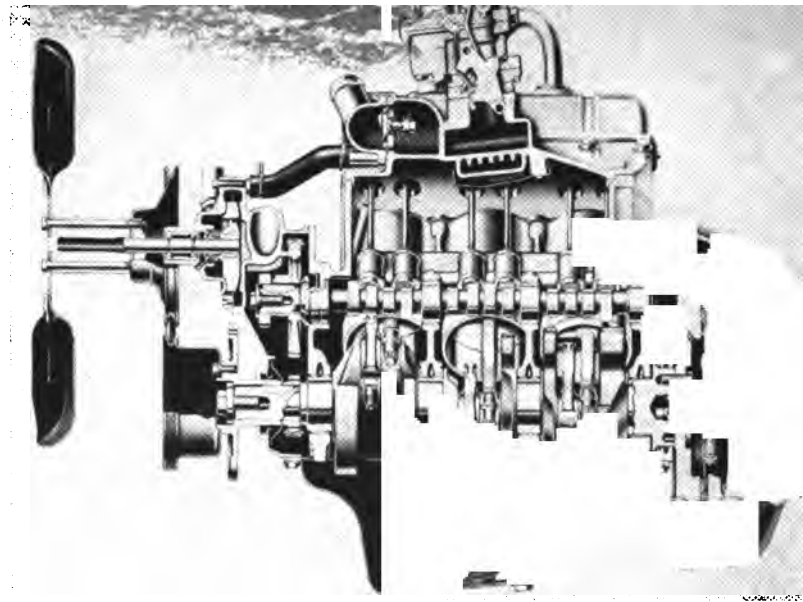
Economic facts of life are dictating the design of tomorrow's automobile. Engineers are rejecting complex engines, transmissions and other components in favor of simpler, lighter mechanisms which will do an adequate job as cheaply as possible. Evident in the newly introduced 1962 models, this trend seems certain to continue as manufacturers fight the cost-price squeeze in their efforts to develop cars which the unpredictable American public will buy.

Cutting first cost through simplified design is not the only appeal to the customer's pocketbook. Extended chassis lubrication intervals, more miles between oil changes, self-adjusting brakes and other developments advertised to reduce ownership costs represent a big part of the 1962 sales pitch. If these features succeed in selling cars, they will be continued and expanded in the years to come.

In trying to find out what the public wants, the industry has expanded its offerings to include the widest variety of cars since steam and electric power



Two-ply tire, used on all 1962 compacts and some larger cars, with tread cut away. The load capacity is said to equal four-ply tire



Section of Buick's new V-6 powerplant. Spacer at left is necessary to place fan close enough to the radiator in compartment designed for a V-8

CAR-OF-FUTURE DESIGNERS

yielded to gasoline. The widened model lineup offered by the bigger companies is not intended to be a permanent thing. Cars which don't pull their weight, saleswise, will be unceremoniously dumped.

The very existence of such a multitude of models, however, reflects the desire of manufacturers to cover all segments of the market. New techniques in body tooling and the use of computers to solve complex engineering problems have enabled factories to cut lead time drastically, making it possible for them to adjust to the ever changing demand.

Probably the outstanding example of a company's willingness to broaden its line to meet competition is the introduction of the Chevy II. Galled by Corvair's inability to do better against Falcon and Rambler, Chevrolet brought out the new compact.

In-Line 6 Favored

With smaller and lighter cars grabbing an increasing share of the market, the popularity of the 6 cyl. engine should continue to rise. Of the three types now in use, which will hold the dominant position? The in-line 6 is the simplest in construction and the cheapest to build, so its place in the lowest-priced compacts seems assured. In the event of an all-out price war among the smaller cars, its chief rival would be the 4 cyl. engine, now offered only by Pontiac Tempest and Chevy II. If cars smaller than today's compacts appear, look for the V-4 powerplant.

The V-6 can't match the in-line 6 in cost, so its niche seems to be in cars a cut above the lowest, where

buyers are willing to pay a little more for better performance and greater smoothness. Its prospects depend largely upon customer reaction to the Buick application.

The horizontally opposed, or pancake, engine is peculiarly suited to rear-end installation, so its fate is tied to that of the Corvair. It is unlikely that any new engines of this type will be built soon.

Tops in Smoothness, Power

What about the V-8? It will continue to be the premium engine, still unmatched in smoothness and power output. It will be optional in the fancier compacts and lower-priced standard-sized cars and standard in the medium and high price fields.

In the new 1962 powerplants, engineers have combined fresh designs with existing tooling to develop engines specifically designed for the job they have to do. Buick's V-6 is an outstanding example. To broaden the appeal of the Special, it was necessary to lower the price. Substituting an iron V-6 for the expensive aluminum V-8 made possible not only a price reduction but a noticeable increase in fuel economy.

Buick departed from past engineering practice by angling the two banks of cylinders at 90 deg. from each other. Previous V-6's in European passenger cars and American trucks used angles of 60 or 120 deg. The 90-deg. arrangement permits Buick to utilize existing V-8 tooling to build the new engine. The unevenly spaced firing impulses resulting from the 90-deg. angle are smoothed out [CONTINUED ON PAGE 155]

HOW TO ENFORCE

By Arthur L. Reuter

Member of the New York Bar

Keeping Mavericks in Line

Every time some segment of the automobile retail trade is accused of sharp dealing or unethical practices, it is said that the offenders are a small minority.

This is true but it is usually embarrassing to the majority to find that the mavericks are members in good standing of their trade association. The plea is then made that it is impossible or at least impractical to get rid of them.

Here, in an article by a lawyer who has made a study of the situation, are five suggested steps for getting rid of unethical characters, to make associations and their emblems mean something to the buying public and protect the interest of square-shooting retailers and servicemen.



Awarding plaques to members who do most to uphold code is effective method of enhancing association's image among buyers

"From headlights to tailpipe, your car is today's biggest swindle" says a current magazine for male readers.

The motorist, it asserts, "is bombarded on all sides by a series of frauds—real or unintentional—ranging from the phony pitch of the dealer who sells his first jalopy to the friendly mechanic in the neighborhood garage who wants to peddle a useless battery additive."

Gyp Artist Hurts All

Exaggerated? Undoubtedly. But the activities of the gyp dealer and repairman, even though he is the exception, rather than the rule, does plague the industry. Once victimized, the customer tends to view all dealers and repairmen with equal suspicion. Unable to distinguish between the reasonable and the fantastic, he is likely to fall for the bait of another unscrupulous dealer.

As customers' resistance acquires increasing armor, the reputable dealer or repairman fails to get his money's worth out of his sales efforts and advertising expenditures. He must cut prices and profits on legitimate goods and services to meet the gyp's prices for puffed goods and phony services. Too often, he is himself forced into sharp practices in order to stay in business alongside the trickster.

Attempts to remedy the situation have been and are being made. "Codes of Ethics" have been adopted by national and local associations of dealers and garage owners and standards of practice for advertising and selling automobiles have been established by Better Business Bureaus and subscribed to by association members.

Public Confidence Drops

But the gyp remains and public confidence continues to fall. The dealer and garage-owner associations are not really identified by the people in the community with fair dealing and dependability. Consequently, the gyp dealer or repairman suffers no loss of prestige or imputation of unreliability by failing to display the association emblem, if any.

Worse, the gyp dealer may join the dealer association and display the emblem despite the constant practice of fraud and deception. To the extent that the association and its code of conduct has acquired any public recognition, a gyp member diminishes the reputation of his fellow members.

The remedy is obvious—the customer must be enabled to distinguish readily between the fair dealer

A CODE OF ETHICS



Dealer charged with violating the code of ethics can be tried by committee of fellow members and, if found guilty, expelled

and the gyp. He must do business with the fair dealer with confidence that he is fair and must shun the gyp because he is clearly one who is excluded from the ranks of business decency.

The corrective program I propose has five prongs:

1. *An association of dealers and repairmen.* Such associations already exist on both national and local levels. They are needed in every community.

2. *A code of fair practices subscribed to by the association members.*

The National Automobile Dealers Assn.'s Code of Ethics promulgates "the following principles to guide the operations of its members. . . .

A. .To price our products and our services fairly, based upon our costs, plus a reasonable profit.

B. .To allow fair and reasonable prices for used vehicles offered in trade.

C. .To properly inspect and service all vehicles before delivery to our customers.

D. .To provide facilities, personnel and stock of replacement parts, adequate to properly service the vehicles we sell.

E. .To accurately represent and advertise our merchandise and services.

F. .To furnish the lowest finance and insurance charges consistent with sound business.

G. .To support programs designed to promote adequate highways and traffic safety."

These are, of course, mere principles and are not actual standards of practice.

The same organization has also promulgated "Recommended Standards of Practice for Advertising and Selling Automobiles" proposed by a joint committee representing the Association [CONTINUED ON PAGE 165



To safeguard members, as well as to retain the public's confidence, association's emblem must be recovered when a maverick is ousted

THEY SELL THEMSELVES

Novel station promotion invites customers to test and try merchandise, and the pay-off is increased sales



Customers accept free coffee and invitation to make own tests at Karner's service station in St. Paul, Minn.

Customers went for this promotion hook, line and sinker and the station behind it benefited by increasing its TBA sales. The idea, developed by John and Dick Karner, father-and-son team which owns Karner's Mobil Service, St. Paul, Minn., basically involved customer participation.

Here's how it worked: With the onset of winter the Karners set up a special outdoor display of cold-weather merchandise—batteries, snow tires, tire chains, wiper blades, windshield de-icers and solvents and floor mats.

The next step was to get out paint brushes and create signs with impact messages. Last year the Karners used "Try It" and "Take One" as the themes of the promotion. With merchandise and signs ready, the Karners moved one of the station's own cars into a carefully selected location—a spot close to one of the pump islands.

The signs, "Try It (de-icer)" and "Take one look at an actual battery test," were taped onto the car and the appropriate merchandise arranged around it.

The signs, John Karner feels, should not be too perfectly lettered. An obviously homemade sign, with even a few dribbles of paint to heighten its appear-

ance of freshness and personal appeal, works best.

Two batteries—a new and an old one—were displayed and customers were encouraged to make the test themselves, attaching two prongs of the tester to the old and then the new battery. The next logical step was to suggest to the customer that he test his own battery.

Sales Started Early

"As a matter of fact," Karner said, "while we were putting up the display I was interrupted by a gasoline customer. He asked me, 'What's that all about?' When I explained, he replied, 'Hey, that reminds me, I should have my battery tested.' So, before the display was even completed, it had sold a battery for us."

The "Try It" theme required a little more effort and planning. Karner used a pail of cold water and a pile of snow to set up test conditions for de-icers.

"Everybody—even our lady customers—likes to putter around a car," Karner remarked. "And it's a lot easier and faster to let the customers sell themselves on some TBA items. I occasionally made a comment while people were trying the de-icer or battery tester

ON TBA

—something to the effect that I wouldn't drive a car without using a windshield de-icer or that snow tires can be bought on a six months' charge plan without interest. That's about all the sales push we used."

Why not demonstrate these products on the customers' cars? Karner replied, "In the first place, customers don't like to have their cars used for testing purposes. It's like suggesting to them that you try a cleaning solvent on their coat. A car is an even more valuable possession and people would rather see the test performed on somebody else's vehicle. And, you can't blame them."

To prove his point, Karner suggested to six consecutive gas customers that they try a de-icer on their door locks. All six refused. However, when he suggested the test to the following six customers, using the station's own car, four of them agreed. They either tried it themselves or watched Karner freeze a lock, then thaw it instantaneously with a de-icer. Out of the four, three bought a can of the product.

The "Try It" theme was carried out on other products. For example, if his car was not equipped with snow tires, the customer was invited to run his car along a path which the Karners keep—weather per-

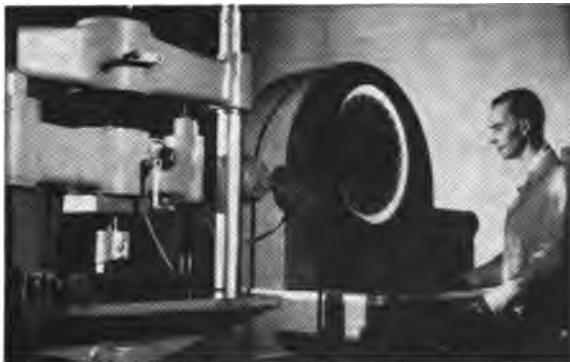


Using snow-covered windshield of car owned by station, customer sees proof that de-icers work

mitting, of course—coated with snow and ice. Then the customer is asked to run the snow-tire-equipped test car along the same route, proving to his own satisfaction that there is a difference between regular and snow tires.

Karner injected a note of [CONTINUED ON PAGE 106]

As Engineers See It



Tests Set Oil-Drain Periods

Establishing oil-change intervals on the basis of used-oil analysis, rather than on arbitrary mileage limits, has enabled one truck operator to extend drain periods from 3,000 to 12,000 miles. Russell E. Bruce, of Richardson Trucks, Inc., a truck-leasing firm, and Robert J. Lewis, of Shell Oil Co., reported the results of the program at a recent Society of Automotive Engineers national meeting.

When Richardson switched from gasoline to Diesel power in one area, it was felt that oil-change intervals

could be safely increased from the 3,000-mile period then in vogue. The idea of setting up an arbitrary schedule, then waiting a year or more to determine the effect on engine wear, was rejected.

Laboratory analysis of used oil was considered impractical because of the work involved in taking samples from a large number of vehicles, labeling them and correlating them with truck mileage records. The Shell ADC Oilprint Analysis System was finally picked as the easiest method.

Under this system, a card with space for 14 samplings is assigned to each truck. Each time the truck comes into the shop—approximately every 1,700 miles in the Richardson operation—one drop of oil from the dipstick is placed on a circular piece of filter paper on the card.

The color and pattern of the spot show whether the oil is still capable of holding foreign matter in suspension. Fuel soot, coolant or condensation is indicated by the appearance of the spot. A second drop of oil, applied to another spot, is checked with a chemical for alkalinity.

As a result of these tests, a drain period of 8,000 miles was set up for turbocharged Diesels. When these engines were replaced by nonsupercharged units, mileage was extended to 12,000.



"That new garageman was in a coupla minutes ago asking for 30 off on a front bumper," said Dan. "I told Terry to give him 10"

Sales Can Start in the Shop

Cap Moran points out the wisdom of keeping garagemen sold on the make of car a dealer handles

Dan Jenkins, the red-thatched service manager of Moran Motors, Inc., was in one of the moods that are supposed to characterize people with carrot-hued air.

"Do you *have* to smoke that thing in here?" he demanded of Lou Butterworth, the used car manager.

Lou took the cigar from his mouth. "Whatsa matter?" he asked. "The doctors scare you off tobacco?"

"No. I'm observing 'Be Kind to Your Nose Week.'"

"For your information, this is a two-bit cigar."

"I can believe it," said Dan. "Worn-out inner tubes must be hard to find these days."

"You're gettin' all worked up and jumpy, son. What's wrong? Job gettin' to be too much for you?"

"The job is fine, but some of the people I have to deal with are enough to drive me nuts."

"Present company excepted, of course," said Lou.

"Not always. But you saw Terry, my parts man, over here when you waddled in?"

"I didn't think nothing about that. You two are still speaking, ain't you?"

"Maybe not for long," said Dan. "He wanted to give that new garageman 30 off on a bumper."

"What's wrong with that? He's entitled to a discount, ain't he?"

"I don't know why. He's only been in business a couple months. Besides that, this is a crash part. He can't get it nowhere else."

Lou took a long drag on the cigar and started to turn away. "That's your headache," he said. "I've got enough of my own to worry about."

"I'm not going to worry about this very long. I'm going to see Cap about it."

"You don't often like Cap's answers but at least they're straight. Now, if you don't have no objections, I think I'll drop by Adelaide's desk and have a little chat."

"You like to bleed, don't you?" asked Dan.

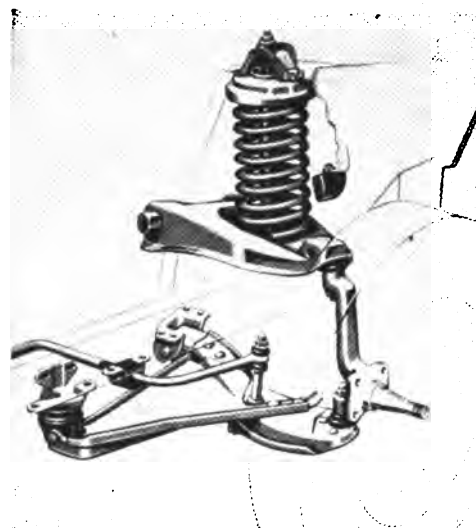
Apparently Lou actually did not, because Dan, when he went to the salesroom a few seconds later, found Adelaide Hunt busily [CONTINUED ON PAGE 160]

Mercury Unveils New Meteor

Offers two- and four-door sedans on 116.5 in. wheelbase . . . 101 hp 6 standard, 145 hp V-8 optional . . . Front suspension is modified cushion-link type



Mercury Meteor two-door sedan for 1962 measures 203.8 in. over-all



Cushion-link front suspension. Rubber-mounted link at front anchor of lower control arm permits limited rearward movement of wheel to absorb road shock

Bigger than a compact but smaller than any Mercury built in the last nine years, the new Meteor has a unitized body, offers a choice of 6 cyl. or V-8 engines and incorporates a modified version of the cushion-link suspension used in the division's larger cars.

Sharing its mechanical components with the Ford Fairlane, the Meteor differs in exterior dimensions, suspension and equipment. The 101 hp 6 cyl. engine is standard, a new 145 hp V-8 optional.

A two- and a four-door sedan are each available in two versions—Meteor and Meteor Custom. The latter has additional exterior ornamentation, carpeted floors and contoured front seat backs. Although nearly 12 in. shorter than the Mercury Monterey, the Meteor has slightly more front-seat leg room, while rear-seat leg room is only 1 in. less. Meteor's wheelbase is 116.5 in. and over-all length 203.8 in., while Monterey has 120 in. wheelbase and over-all length is 215.5 in.

The passenger compartment is shielded from road noise and harshness by the cushion-link suspension



Meteor Custom four-door sedan, one of two models in the de luxe version

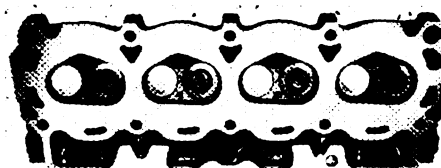
and a type of body construction utilizing box section structural members isolated from the floor pan. Front coil springs and shock absorbers are mounted above the upper control arms. Rubber pads at each end of the coils prevent metal-to-metal contact. A rubber-mounted cushion link at the front anchor of the lower control arm permits a limited amount of rearward movement of the wheel to [CONTINUED ON PAGE 136]



Front shackle of rear spring, showing lever arm encased in rubber in shackle bracket

MAJOR DATA

	Meteor 6	Meteor V-8
Displacement	170 cu. in.	221 cu. in.
Bore and Stroke . .	3.50 x 2.94 in.	3.50 x 2.87 in.
Horsepower	101 @ 4,400	145 @ 4,400
Torque	156 @ 2,400	216 @ 2,200
Compression ratio	8.7 to 1	8.7 to 1
Wheelbase	116.5 in.	116.5 in.
Over-all length . .	203.8 in.	203.8 in.
Height	55.8 in.	55.8 in.



New V-8's cylinder head. Intake and exhaust valves are staggered to prevent hot spots and consequent head distortion or gasket leakage



1 Damage to quarter panel of this 1961 Chevrolet is so severe that replacement was considered

QUICK QUARTER PANEL



4 Spot welds and high points on mating lips are ground off for even attachment of new panel



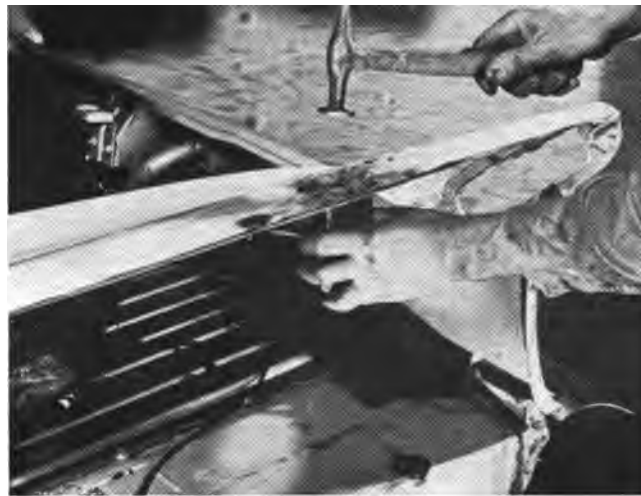
5 With notches in mating lips of panel and clamped, holes are drilled for metal



8 With tapered pins inserted through mating holes of panel, pins are clamped and



l is used to cut out damaged panel at
has already been made at top seam



3 After dent in wheelhousing has been pushed out,
top panel is straightened with hammer and dolly

PLACEMENT

Proper alignment and blind riveting
speed up installation on 1961 compact



ob is obtained in door opening by in-
it-head blind rivets through panel flange



7 Metal screws hold panel in alignment as edges
of the two adjoining lips are welded together

id door are
then primer is
first step in
g operation



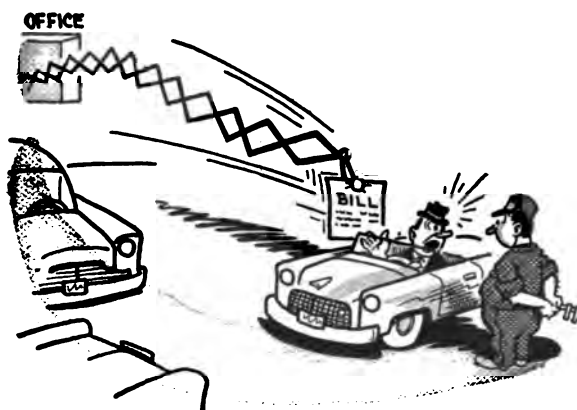
ovember 1961



**"That's Hank's
third helping
of turkey this
Thanksgiving!"**

FALL FARE

By Graham Hunter



**"I said, isn't this carry-
ing automation too far?"**



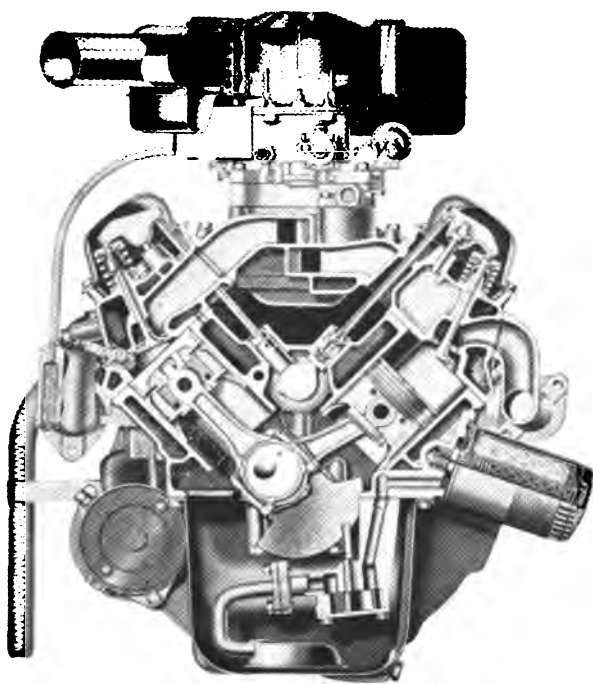
**"Busy? We're swamped! And on top
of that I've had to spare my best mechanic
to fix up our overworked cash register!"**



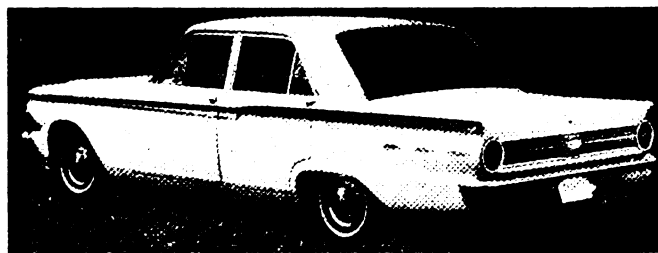
**"It's your wife, Mac. She says
your car just broke down."**



**"Today's outer space programs ain't nothin'
compared to the space problem on a parkin' lot!"**



Cross-section of new lightweight V-8 shows shallow crankcase structure, short water jackets, which keep down size and weight



Fairlane 500 four-door sedan. Wheelbase is 115½ in. and over-all length 197 in.



Lowest-priced model is this Fairlane two-door sedan. Its exterior dimensions are approximately the same as 1955-56 Fords

Ford's New Fairlane Bows

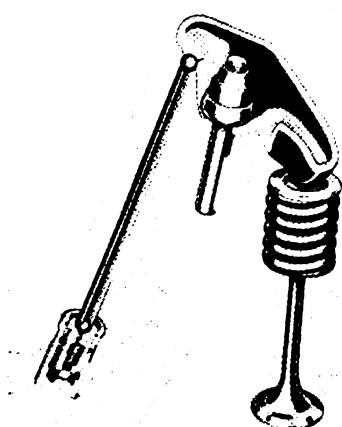
"In-between" series offered in two- and four-door sedans on 115½ in. wheelbase . . . 101 hp, 6 cyl. engine is standard, new 145 hp V-8 optional

Sized and priced between the Galaxie and Falcon, Ford's new Fairlane comes in regular and de luxe models, both mounted on a 115½ in. wheelbase. Two- and four-door sedans are available in the Fairlane and Fairlane 500 versions, which differ only in

trim and equipment. A 101 hp., 6 cyl. engine is the standard powerplant, while a completely new 145 hp V-8 is optional.

Exterior dimensions are comparable to those of the 1955 and 1956 Fords. Wheelbase is the same, while the Fairlane's over-all length of 197 in. is 1½ in. less than that of the older models. Width is 4¼ in. less at 71.3 in. Because of unitized body construction and lighter engines, the new cars weigh slightly over 2,800 lb.—approximately 400 lb. less than the 1955-56 Fords.

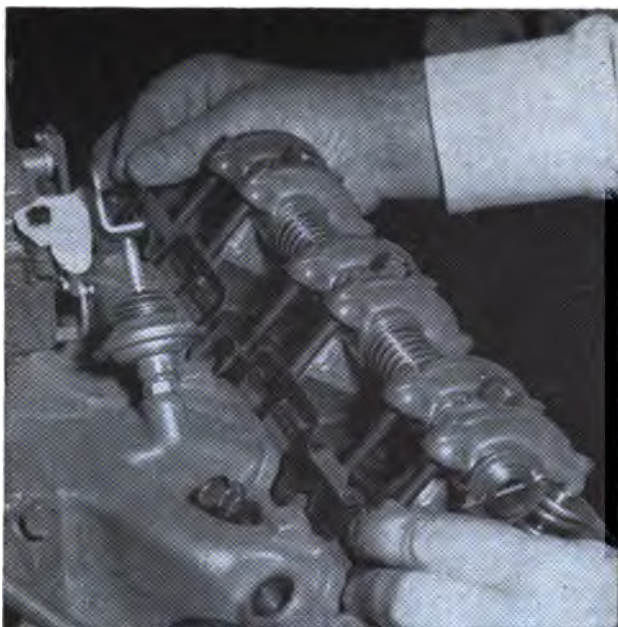
The standard 6 cyl. engine is the 170 cu. in. unit that is optional on the Falcon and Comet. Changes this year include the addition of a torsional vibration damper on the crankshaft, hardened push-rod ends and improved lubrication of rocker arms, increased main-bearing area, a new starter. [CONTINUED ON PAGE 140



←Detail of valve train shows an individually mounted rocker arm and the hollow push rod

MAJOR DATA

	Fairlane 6	Fairlane V-8
Displacement	170 cu. in.	221 cu. in.
Bore and stroke . .	3.50 x 2.94 in.	3.50 x 2.87 in.
Horsepower	101 @ 4,400	145 @ 4,400
Torque	156 @ 2,400	216 @ 2,200
Compression ratio	8.7 to 1	8.7 to 1
Wheelbase	115.5 in.	115.5 in.
Over-all length . .	197 in.	197 in.
Height	55.5 in.	55.5 in.



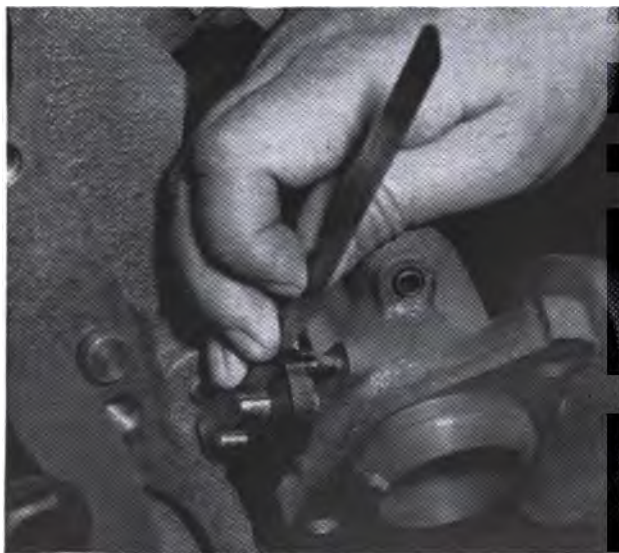
Installing intake manifold gaskets in V-6. U-shaped slots in gasket slip over two manifold-to-head guide bolts to assure proper alignment



Air cleaner snorkel must be positioned correctly. Proper angle, shown here, is about 45 deg. to left, passing over left side of distributor

Service Simple on 1962 Buick

These pointers on first V-6 engine in a U. S. passenger car will help you find and correct trouble fast



Checking calibration of manifold heat-control thermostatic spring. When spring is unhooked, it should unwind approximately one-half turn

Of the two engines offered by Buick Special for 1962, the more interesting from a service standpoint is unquestionably the V-6. The V-8 is practically unchanged.

Simple in construction, the V-6 is easily accessible for most service operations.

This new unit, of 198 cu. in. displacement, powers the 4,000, or standard, Special. The 215 cu. in. aluminum V-8 with two-barrel carburetor is continued in the 4100, or de luxe, series, while the same engine with four-barrel carburetor and higher compression ratio is standard in the Skylark and optional in all other models.

The V-6 shares a number of interchangeable parts with the V-8 such as valves, rocker arms, hydraulic valve lifters and bearings. The general layouts of components and accessories of the two engines are similar but the cylinder block and heads of the V-6 are made of cast iron, rather than aluminum. Consequently, no cylinder liners are used in the newer powerplant. The V-6 has a bore and stroke of 3.625 by 3.2 in., compared with 3.5 by 2.8 in. for the V-8.

Both engines have the even-numbered cylinders on



on is installed with notch facing toward
t of engine. Correct positioning is impor-
because piston pins are offset .040 in.



Sintered bronze fuel-filter element is
in carburetor fuel inlet with open en
out. It should be cleaned every 12,0

Special

right bank. Firing order for the V-6 is 1-6-5-4-3-2.
use of the 90 deg. angle between the two banks,
g impulses are unevenly spaced.

ny four-cycle engine must fire all its cylinders in
revolutions of the crankshaft, or 720 deg. of trav-
The normal firing interval for a 6 cyl. engine
ld be one-sixth of this, or 120 deg.

i the Buick V-6, however, each cylinder in the left
k follows the opposite cylinder in the right bank
he firing order. Since the connecting rods of op-
ng cylinders are mounted on the same crankpin,
left piston is always 90 deg. behind the right and
t reach firing position 90 deg. later.

fter the 90 deg. interval between firing of oppo-
cylinders, the crankshaft must rotate 150 deg. be-
the next cylinder is ready to fire. Consequently,
g intervals alternate between 90 and 150 deg.
ing any two revolutions of the crankshaft, there
three intervals of 90 deg. and three of 150.

he unevenly spaced firing intervals affect the
ings of some types of electrical test equipment.
en the distributor is checked on a test stand for
lobe accuracy, arrow flashes will alternate at in-
als of 45 and 75 deg. of distributor rotation. Cylin-
patterns on an oscilloscope also will be unevenly
ed.

well angle readings, however, are not altered.
ified setting is 30 deg., plus or minus 1 deg. for



Positioning distributor to fire No. 1
Straightedge is used to make sure cen-
of rotor is over notch in distributor

both V-6 and V-8. As on other Buicks, poin
adjusted without removing the distributo
raising the adjustment window and turnin
justing screw with a 1/8 in. Allen wrench. V
operation can be performed with the engine
it is safer to shut it off, since the distributor
just behind the fan.

To set initial spark timing on either er
vacuum advance line is disconnected and t
run at 1,050 rpm. The correct setting is
BTDC for all Specials ex- [CONTINUED ON



To connect vacuum gauge on some cars, adapter must be installed in hole in intake manifold



To aid starting, index mark on choke housing is advanced, increasing tension on choke valve



Clean rag and screwdriver are used to remove dirt and water found in the carburetor bowl

EASY CURES

When temperatures drop and complaints rise, these trouble-shooting short cuts will save you time, money and customers

By Sam Julty

Service Editor of MOTOR

Cold weather has a way of bringing out the faults in a car. These are usually brought to the attention of the repairman through the common complaint of hard starting. A car owner who may not bother about loss of power or flat spots in acceleration will be quick to call for help once he has trouble getting started. And this call of distress usually comes at a time when the weather is miserable.

Hard starting may be divided into two types. A doctor would call one acute, the other chronic.

The acute case is the car, which on a cold day, suddenly refuses to start. A chronic case is the car which the owner always manages to get started but only after straining his battery and his patience to the limit.

When handling a road call which involves hard starting in cold weather, everyone is interested in a speedy solution. The customer is upset, the repairman has to work without the help of shop equipment and the operator is missing a man from his crew. Before leaving the shop it would be wise to see that some basic equipment is in the service truck. The most important of these is a fully charged booster battery.

According to the AAA, one-fourth of the 65,000,000 road calls its contract shops answered last year were due to battery and electrical troubles. Other parts in the "distress kit" should be a set of ignition points, a spare condenser, a few spark plugs, a spare coil and a rotor. Among the basic tools in the kit, a test lamp should be included.

Question Car Owner

A visual check at the fuel and ignition systems will sometimes give a hint as to what is wrong but it is always advisable to question the owner carefully as to what happened when starting was attempted. Was the cranking operation a series of moans? This could mean a weak battery or excess strain on the engine. Does the engine seem as if it's going to start but fails to "catch?" This may be due to a faulty ignition circuit. Does the engine start then quickly die? This may mean poor fuel supply.

Before cranking the engine, remove the carburetor air cleaner. If the engine is cold, the choke butterfly

FOR HARD STARTERS

should be closed. Hold this valve open and move the throttle linkage. A spray of gas should be seen entering the carburetor throat. If not, then the fuel supply is cut off. It could be due to ice jamming the carburetor float, a stuck needle and seat, frozen fuel line or a damaged fuel pump. Once a fuel supply is assured, move on to the ignition circuits.

Remove the distributor cap and rotor, crank the engine just enough to *close* the ignition points. Leave the ignition key in "ON" position. Connect the test lamp clip to the distributor-wire terminal and the other end to ground. If the points are closed, the lamp will be off. If the bulb lights, crank until it goes off. Then remove the wire from the center tower of the distributor cap and hold it about $\frac{3}{4}$ in. from a good ground.

Pry Points Apart

Using a screwdriver, pry the points apart by pushing on the movable arm. While doing this, watch the tip of the wire held in the other hand. A blue spark should jump from the wire to ground every time the test lamp goes on. If not, you can suspect the condenser or ignition coil. If a spark does occur, have the engine cranked. A series of pulsating sparks should



Cleaning distributor cap towers of moisture and corrosion assures good electrical connection.

jump to ground. If not, check the ignition.

If everything checks out, replace the wire, rotor and the cap and remove the test lamp. Attach a booster, if necessary, and crank the engine. If the choke is inoperative, correct [CONTINUED ON PAGE 10]

Capital Close-Ups

By Bert Mills

Washington Editor of MOTOR



Roosevelt Oil Probe Resumes

A House Small Business subcommittee headed by Rep. James Roosevelt (D., Cal.) will be making headlines again soon. Rep. Roosevelt believes the oil companies coerce gas station operators. A series of questionnaires was sent to integrated suppliers and jobber and dealer associations, with a Nov. 1 deadline for submission of "full and complete" answers. Further public hearings may be held after the returns are analyzed.

Respondents will have to do a great deal of digging to come up with the answers, because the subcommittee wants data for a four-year period. Here is one question asked of oil companies:

"Does your company, in any way, supply a part of the financing required by any of its station operators (lessees, other retail dealers, wholesale or jobbers)? If the answer is 'Yes,' state the number of instances during the past four years and describe full the extent of the financing terms of repayment interest charged, collateral or security required, as well as all other pertinent data for each of the stations."

Sell Leased Stations?

Rep. Roosevelt is also anxious to learn whether station operators are not owners. For that reason, he has asked the oil companies [CONTINUED ON PAGE 10]



A FUTURE IN FRONT END

There can be for you if your shop is not already in this profitable field . . . Here's what it takes to get started

So much talking has been done about "service-free" cars that many servicemen, as well as their suppliers, have grown concerned about the fewer opportunities that shops will have to contact the owners of the newer models. The effect of longer lubrication intervals on service volume has been greatly exaggerated, yet any number of shops are looking around today for opportunities to expand their services, as a means of selling customers more every time they do drive in for service.

In considering the possibilities for business expansion, one highly profitable service which should not be overlooked is wheel alignment. Here is a field of work that is frequently needed. Unlike some types of service, it knows no season, is not related to car age or mileage. If tire wear is excessive or the customer's car is not handling the way it should, selling alignment is easy.

What's more, rates for wheel alignment are good and the profit potential is high. The flat-rate time for three popular 1961 cars, Ford, Chevrolet and Plymouth, is 1.8 hours. On the basis of \$6 labor charge, this amounts to \$10.80 per job.

When a shop offers alignment it can also get related business as a by-product. Examination of the

front suspension—which should be part of every good alignment job—can reveal faults such as defective shock absorbers, worn ball joints or loose tie-rod ends. Translate these faults into prices and it means a healthy extra income for a shop.

Viewed from these angles, wheel alignment sounds like a pushover. But venturing into any new field requires careful examination from several angles—and wheel alignment is no exception. The first questions which should be answered are: What is the competition? How close is the nearest shop doing similar work? What is the quality of their work and how much do they charge?

Weigh Competition

On one hand, it may not be wise to try to compete with a large established front-end specialist across the street. On the other hand, the nearest alignment service may be several blocks away and the equipment no more elaborate than the type you contemplate buying.

Besides the competition, the local market must be studied to determine approximately how much alignment business can be expected. The next step is to



roducing wheel alignment equipment in his shop.

Another factor is personnel—men to perform the new work. If any man in the shop already has had wheel alignment experience, he can serve as the shop specialist. He can continue to perform his usual work but, when alignment work is needed on a customer's car, he can switch over and resume his normal work when finished.

If a shop expects a fairly high volume of front-end work it may be more practical to hire a full-time experienced man. If there is a shortage of skilled help in his area and no one on the staff has alignment experience, the shop owner can train a man. He may be from the shop's original crew or a newly hired man.

Fortunately, virtually all manufacturers of front-end equipment provide training assistance. Local sales reps will tell your men how to operate their company's equipment, but for full-fledged instruction it is necessary to attend the full-time schools maintained by some of the equipment makers.

Such training will cost some money. At least school tuition charges. Besides this, living and traveling expenses will have to be put [CONTINUED ON PAGE 183]

WORK

see if alignment work can be obtained from sources other than car owners. New car dealers should be canvassed to find whether they will farm out work on a wholesale basis. The same can be done with used car dealers, body shops, tire shops and gasoline stations. There is one factor that must be kept in mind: Wholesale work means wholesale prices. To make it worth the effort, there must be some assurance that a sufficient volume of work will be forthcoming from these trade sources.

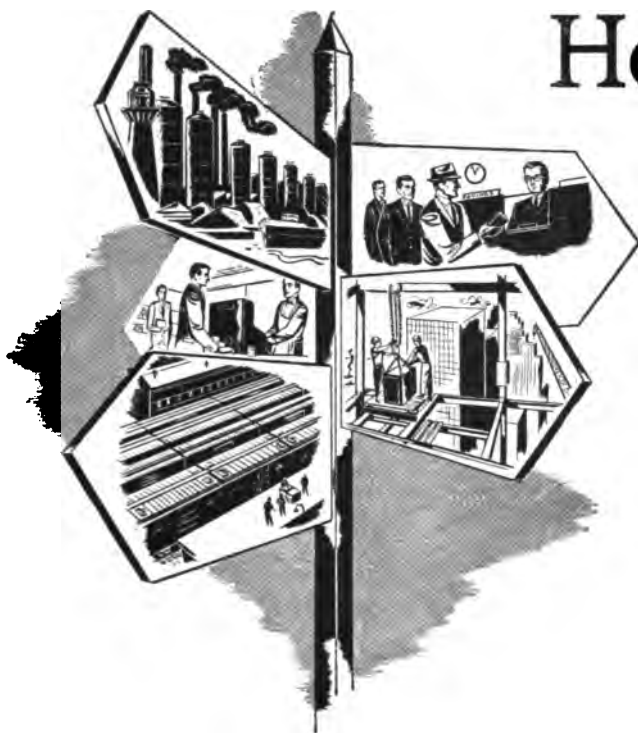
Determining Costs

When contemplating the addition of a new department—or even the purchase of a new tool, for that matter—a repairman usually asks, "What's it going to cost me in terms of space, personnel and equipment?" In the case of wheel alignment, a simple answer cannot be given. Costs will have to depend on a number of important factors.

How much space will be needed? How big an operation is planned? Front-end equipment varies in size and design. There are alignment gauges and tools ranging in size from a small magnetic gauge to a completely equipped pit occupying many square feet. In one case, a shop may have "dead" space available for a complete alignment department. In another, space may be at a premium. In this instance, the repairman must evaluate the loss of space against the possible additional profit that can be gained from in-



Shop that invests in front-end equipment must promote new department to acquaint its customers



How's Business?

MOTOR'S Monthly Summary

volume may top last year's final quarter by as much as 3 per cent. Intercity truck tonnage last month was running well ahead of like period last year.

CONSTRUCTION. Private housing starts, which lagged earlier this year, have picked up momentum. At the end of next month, it is predicted, total starts for the year may total 1,350,000 units, 5 per cent above last year. Meanwhile, expenditures for commercial and public construction have been running at high levels.

RETAIL SALES. Activity in the nation's retail stores should pick up sharply this month and hit a peak in December. Federal economists point to high personal income, increased savings and lower instalment debts as reasons for a consumer buying surge.

EMPLOYMENT. For the first time this year the jobless total may fall below the 4,000,000 mark this or next month. It is unlikely that the unemployment rate will dip to under 6 per cent of the total labor force.

PRICES. Average wholesale prices in primary markets declined .2 of a percentage point in one week last month to 118.5 per cent of the 1947-49 base. Decreases were registered for farm products, processed foods and industrial commodities. There is little likelihood of any upward pressure on wholesale or consumer prices before 1962.

CREDIT. Commercial banks have expressed disappointment in the demand for loans from businesses as well as consumers. As a result, chances of interest rates rising before 1962 are slim. Moreover, funds for home buyers are said to be plentiful.

PRODUCTION. Industrial output has been running smoothly although not spectacularly. Work stoppages more than anything have restrained industrial production. If there is peace on the labor front this month, industrial output may surpass 113 per cent of the 1957 average, a record set last August.

PERSONAL INCOME. Annual rate of personal income, which began an upward climb in March, is expected to come to \$422,000,000,000 by year's end. In mid-summer government officials had predicted that personal income of the nation's citizens might reach or exceed \$425,000,000,000.

Economic Outlook Favorable

Performance of the nation's economy in the October-to-December quarter is being watched carefully by government officials and economists. What happens from now until the end of 1961 may foreshadow what lies ahead in 1962.

A few months back there was unrestrained optimism, but, when industrial output dipped in September, economists and business men became more cautious. The decline undoubtedly was caused by labor strife and not by any inherent softness in the over-all economy.

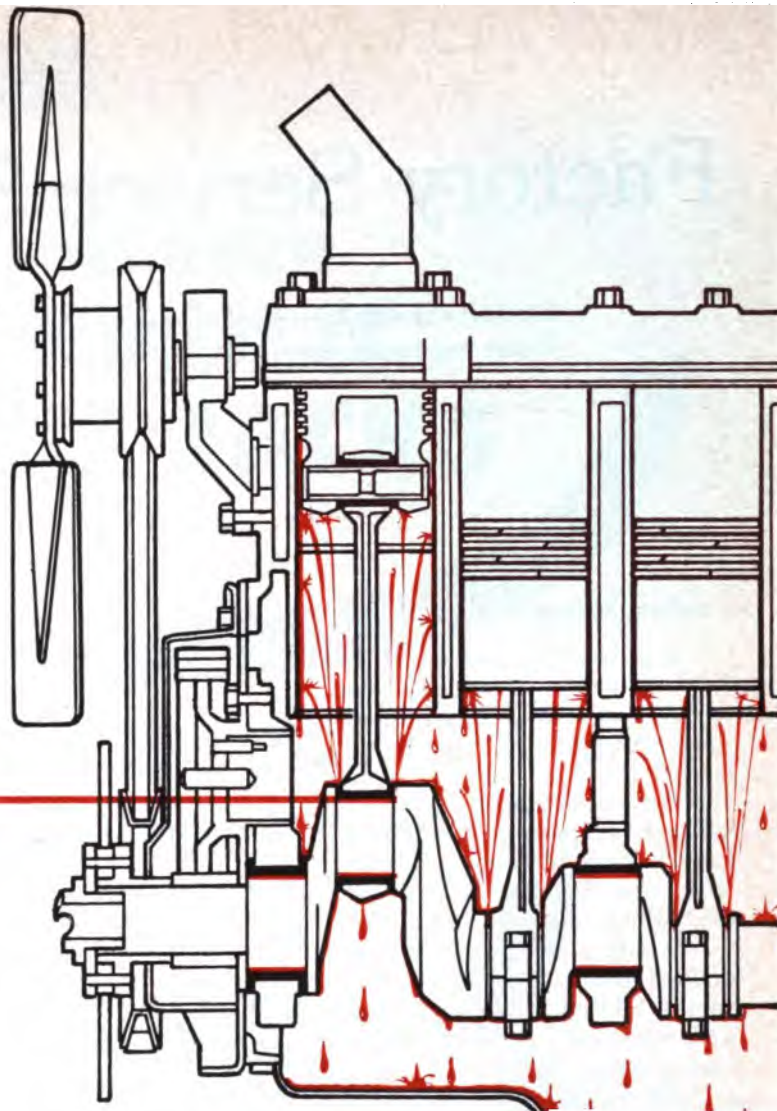
There are numerous encouraging signs that indicate 1961 will go down as a good, although not spectacular, year. Rail and truck freight loadings have been recently running well ahead of the 1960 pace. The unemployment total is hovering about the 4,000,000 level, the lowest this year. And the construction industry, with the exception of private housing, has enjoyed peak levels.

There is good reason to expect that retail buying will surge in November and December. Consumers have been adding to their savings at a high rate and have reduced their indebtedness. These factors provide the basis for an expansion of consumer purchases. Then, too, recent surveys indicate consumers have stepped up their plans to purchase major items.

* * *

CARLOADINGS. Rail freight shipments, which began a week-to-week climb in mid-September, will decrease this month. Nevertheless, fourth-quarter

**Why
precision
bearings
are
vital here**



Engine bearings have *two* vital jobs. They provide a low-friction surface for journals to ride on. But equally important, they control the oil throw-off, due to the rotating action of the shaft, that lubricates and cools cylinder walls and other engine parts.

Exact tolerances are needed in engine bearings and shaft diameters to get the kind of precise "clearances" needed to control oil throw-off. *Too little clearance*—error of less than .001"—may result in an overtight bearing and early bearing failure due to inefficient lubrication.

Too much oil clearance is equally harmful to proper engine performance. If oil clearance is changed from

just .0015" to .006", the oil throw-off (shown above) increases 25 times. And even the best piston rings can control only about a 5 times normal amount of oil. The excess oil then slips past piston rings into the combustion chamber where it clogs piston rings and builds up combustion chamber deposits.

Federal-Mogul knows, as you probably do, the importance of oil clearances. That's why **Fm** bearings are manufactured to tolerances as close as $\pm .000125"$ —1/16 the thickness of a human hair. Why take a chance on anything less than precision engine bearings? You can be sure of a satisfied customer when you use the best. See your Federal-Mogul jobber.

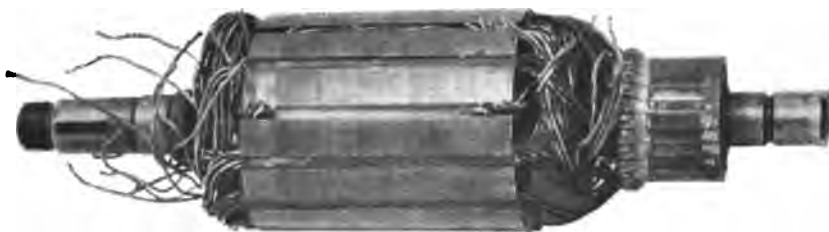


FEDERAL-MOGUL ENGINE BEARINGS

FEDERAL-MOGUL SERVICE

DIVISION OF FEDERAL-MOGUL-BOWER BEARINGS, INC. • DETROIT 13, MICHIGAN

What Caused This?



The owner of a 1958 Chrysler made a beeline to the repairshop when he heard strange noises under the hood. At the same time he heard the noise he observed that the ammeter showed discharge. The repairman traced the problem to the generator and, after he had removed and disassembled it, he found the armature windings had broken loose and twisted around the shaft. The customer couldn't understand why his generator had failed because, as he said, "It was always charging full." Do you know what caused this? The answer appears on page 102.

Factory Service Slants

continued from page 62

will increase fuel consumption. Check the gasket first when investigating the cause of poor mileage.

On 1960 Plymouth models, two gaskets, part No. 1630472, are installed between the carburetor and manifold. Each gasket has four slots and cannot be improperly installed. However, the use of one gasket, rather than the required two, will prevent proper choke operation and waste gas.

All 1961 Plymouth 6's and Valiant engines, including those equipped with a closed crankcase ventilating system, use gasket part No. 2205582. This gasket has two slots and a small hole, and must be installed with the hole placed toward the front of the car.

DODGE

Corrects Brake Dive

Installation of new brake shoes that are not radius-ground .013 to .018 in. under the drum diameter will cause the shoe to contact the drums only at the heel and toe of the shoe when the brake is applied. This can result in brake dive, fade or lock-up.

To make certain replacement shoes are ground to the proper

radius, place each shoe in its drum for checking before installation. There should be at least a .004 in. clearance between the shoe and drum at the heel and toe ends of the shoe. Under no circumstance should there be a clearance between the center of the shoe and the drum. If there is, this indicates the shoe has not been ground to the proper radius.

LINCOLN

Replaces Starter Drive

To replace a positive-engagement starter drive on 1961 models, remove the brush-cover band and the cover from the actuating lever. Take the through bolts out of the drive-gear housing and remove the housing and lever-return spring. Now remove the pivot pin which retains the actuating lever and lift off the lever. Take off the bearing washer and retaining clip and remove the drive.

When installing the starter drive, first apply a film of light-grade synthetic silicone grease to the spiral teeth on the armature shaft. Slide the drive into place and install a new retaining clip.

Next, install the movable pole. Be sure the lower forks engage the ears of the drive assembly plate. Lubricate and install the pivot pin. Place the steel washer on the shaft. Then place the le-

ver-return spring and the housing in position on the frame and install the through bolts. Make sure the brush leads are not pinched. Install cover and band.

OLDSMOBILE

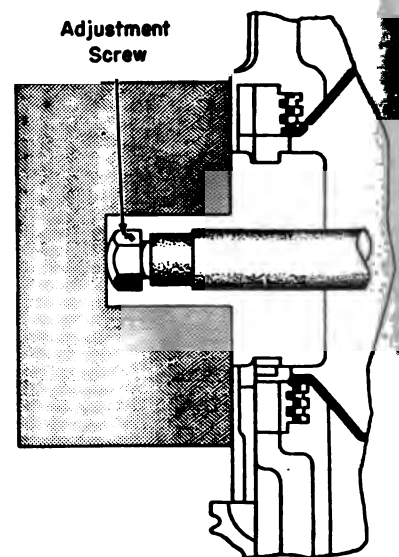
Hydra-Matic Refill

When refilling a drained 1961 Hydra-Matic, a full level may be indicated on the dipstick before the amount of oil specified for a refill has been added. In such cases the engine should be run for several minutes and the Hydra-Matic fluid level rechecked.

The Hydra-Matic will take the specified amount of fluid. If the unit is driven without the proper amount of fluid, damage to the unit can result.

FORD

Checks Power Brake



When gauge is placed against surface of booster body, adjustment screw should just touch edge of slot in gauge

A gauge can easily be made from a 1 3/4 by 2 7/8 in. piece of No. 16 gauge sheet steel to check push-rod adjustment on a 1961 Ford equipped with a Midland Ross power brake. Cut a 3/4 in. wide, 0.995 to 1.005 in. deep slot in the long side of the gauge.

To check the adjustment of the

[CONTINUED ON PAGE 68]

Give 'em what they want...
Give 'em **GUMOUT**



There are 48,000,000 customers for GUMOUT on the road right now! 48,000,000 cars with dirty carburetors! 48,000,000 cars in trouble with stalling . . . or bucking . . . or hard starting . . . or high gas consumption . . . or poor power . . . or other performance failures. Give 'em what they want . . . Give 'em GUMOUT! The most reliable, best known, most widely used "on-the-engine" carburetor cleaner in America!

JMOUT Cleveland 4, Ohio

OR, November 1961



You stop more customers when

Safe, dependable stops on the highway mean satisfied customers... the kind who will keep coming back, year after year, for the trouble-free J-M brake linings and brake shoe sets you install.

You can build a solid reputation and a steady, profitable brake lining business on these quality J-M sets:

J-M PB SETS, power-built for power

brakes. They are tough and durable... offer greatest resistance to wear in hard service or on light commercial vehicles.

J-M CFS CUSTOM 4-STAR SETS, for top performance in both power or non-power systems. They assure smooth performance, stability and dependable stops.

J-M WK SETS, the all-purpose lin-

ings, fully molded, that deliver safe, trouble-free operation... yet are competitively priced.

Johns-Manville linings—precision molded of select grades of asbestos fiber and non-scoring metal and friction particles—are the most durable and stable brake linings available anywhere. They are remarkably free from sensitivity to temperature change or wet, humid weather.



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You'll make more friends — and stop more customers — when you install brake linings made by Johns-Manville, sponsors of the nationally-known "Wheel of Safety" Program.

Get more information from your J-M Distributor, or write Johns-Manville, Box 359, New York 16, N. Y. In Canada: Port Credit, Ontario. Cable address: Johnmanvil.

JOHNS-MANVILLE
BRAKE LINING



continued from page 64

screw, place the gauge against the booster body surface, which is mounted against the master cylinder. Adjust the push rod screw to just touch the inner edge of the slot in the gauge. If the screw is improperly adjusted, the piston on the master cylinder may not completely release the hydraulic pressure and drag will occur.

RAMBLER

Improves Shifting

Alternating down and upshifting on an early 1961 American automatic drive, occurring between second and high at normal throttle pressure from 30 to 50 mph, can be caused by improper pressure actuating the 2-3 shift valve. This permits part-throttle kickdown above the normal limit of 28 mph in direct drive.

Transmission pressure and vacuum setting, with both V-8 and L-head engines, is 107-113 lb. per sq. in. at 10.5 in. If improper shifting occurs with pressure and vacuum at specified limits, reduce the pressure 5 to 10 lb. by resetting the vacuum and solenoid unit approximately one-half turn out from the case. Do not exceed one full turn since this will cause 1-2 slippage and loss of full throttle kickdown.

If a reduction of pressure does not correct the condition, replace the spring between the throttle and kickdown valves with a new spring, part No. 3151124. Then readjust oil pressure to specifications.

TEMPEST

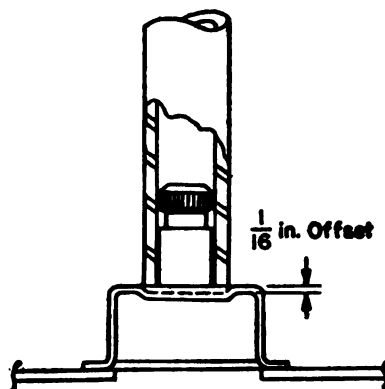
Ends Transmission Noise

A clicking noise during the 1-2 upshift on an automatic transmission is caused by a glazed condition of the transmission high clutch plate.

To eliminate the clicking noise, make several successive forced upshifts at full throttle. This will burnish the clutch plates and eliminate the noise.

CHEVROLET, CORVAIR

Prevents Window Slippage



Pipe is placed over spindle and tapped with hammer

When a door or quarter window works down or drops from its fully closed position on a 1961 Chevrolet or Corvair, this is usually due to slippage in the window-regulator clutch assembly.

To correct this condition, first remove the control handle for the window regulator from the spindle. Then place a suitable length of $\frac{1}{2}$ in. pipe over the spindle and in contact with the clutch housing. Tap the end of the pipe with a hammer to depress the top of the clutch housing approximately $\frac{1}{16}$ in. in the area surrounding the spindle.

MERCURY

Inoperative Door Lock

An inoperative front-door lock, with the window lowered on an early 1961 convertible or hardtop, may be due to interference between the lower bracket on the window rear run and the arm on the lock lever. Interference occurs when the rear run is deflected to the rear as a window is lowered beyond its normal stop position. The condition can be cured by adjusting the window stop or the rear run.

To adjust the stop, lower the window to its full-down position and remove the door trim panel. Operate the door-lock push but-

ton to see if the lock arm is contacting the bracket on the glass rear run. Adjust the lower stop so that the top edge of the door glass is even with the belt line.

If interference still exists, adjust the rear arm forward as far as possible, with free window travel. For additional clearance, if necessary, remove the door lock assembly and bend the arm on the lock lever rearward as required.

COMET

Replaces Rear Bumper

The license plate reinforcement is welded to the rear bumper assembly on all 1960 and early 1961 Comets. On late 1961 models, the reinforcement is attached with two screws.

When a rear bumper with a welded license plate reinforcement is replaced in service, a new reinforcement, part No. C1C-B-17A778-A, should be installed. The reinforcement is attached with two $\frac{1}{4}$ in.-20 pan-head screws, $\frac{1}{2}$ in. long. Holes are provided in the reinforcement and in the bumper.

PONTIAC

Unsticks Switch

A sticking plunger or intermittent contact on a door-pillar switch can be corrected easily. To eliminate the trouble, remove the switch and apply a small quantity of a silicone lubricant to the plunger. Then actuate the plunger several times to make certain it operates freely.

Use of a silicone lubricant will permit the plunger to move freely under all temperatures and without causing damage to the rubber seal.

Before installing the switch, carefully bend the ground strap fasteners on the sides of the switch outward with a screwdriver to provide a more positive ground. Then install the switch and check its operation.



\$10 for Your Ideas

Have you come across any timesaving short cuts or solutions to tough repair problems? If you have, and the idea is a good one, MOTOR will pay you \$10. If your idea needs an illustration, just enclose a rough sketch in your letter. MOTOR'S artists will do a finished drawing.

When your idea applies to one particular car make, be sure to give the make and model year of the car.

Naturally ideas which have already been used or offered elsewhere cannot be considered.

So grab a pencil and jot down your idea on your shop's letterhead or billhead. Then mail it to "Fix It" Editor, MOTOR, 250 W. 55th St., N. Y. 19, N. Y.

Car Troubles? Readers Tell How To

FIX IT

Hose Replacement

windshield wiper or hose can be installed attaching it to the old using the old hose to new one into place e firewall.

his, take a sheet-metal e required size and cut id. Now join the ends and old hose by thread- on the sheet-metal old hose can then be ull the new one into

—RAY REHBERGER
Shole Buick
White Plains, N. Y.

Engine Removal

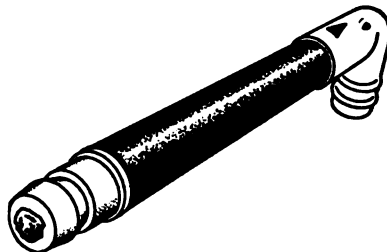
al procedure in remov- ible American engine chassis is to dismantle crossmember and steer- e. The engine is then from below.

method permits the en- removed from the top. behind the radiator is each end to the fenders. racket 6¾ in. from the fender and bend it for- the engine has been

removed and reinstalled from the top weld along the cut in the bracket to join it.

—HARRY PENLAND
Penland Motors
Oskaloosa, Ia.

Quick Ignition Check



Spark plug terminal, soldered to end of spark-plug wire to make adapter for jump-spark test

The rubber boots molded on the spark plug ends of ignition wires make it difficult to check the ignition by means of a spark jump. The wire terminal is recessed in the boot.

A discarded plug cable, preferably one with an exposed plug connector, makes a good adapter. Leave the connector on the wire and skin about ½ in. of insulation off the other end. Slip a

spark-plug terminal over the exposed wire and solder it in place.

To make a quick check slip the plug terminal into place in the plug connector on the wire. Use the exposed connector to make the gap.

—BARRY STEVENS
Hancock Esso Service Station
Wollaston, Mass.

Prevents Wire Break

On General Motors cars with electric window switches on the armrest of the left front door, the wires, located in a harness, sometimes break at a point just past the shroud on the door hinge behind the kick pad on the left cowl. I have found a way to prevent a recurrence of the trouble.

After splicing the broken wires, I leave them loose. By not taping them together into a loom as they were originally, the wires are more flexible and do not break when the door is opened and closed frequently.

—GARY HOLZMAN
Hillcrest Motor Co.
Beverly Hills, Cal.

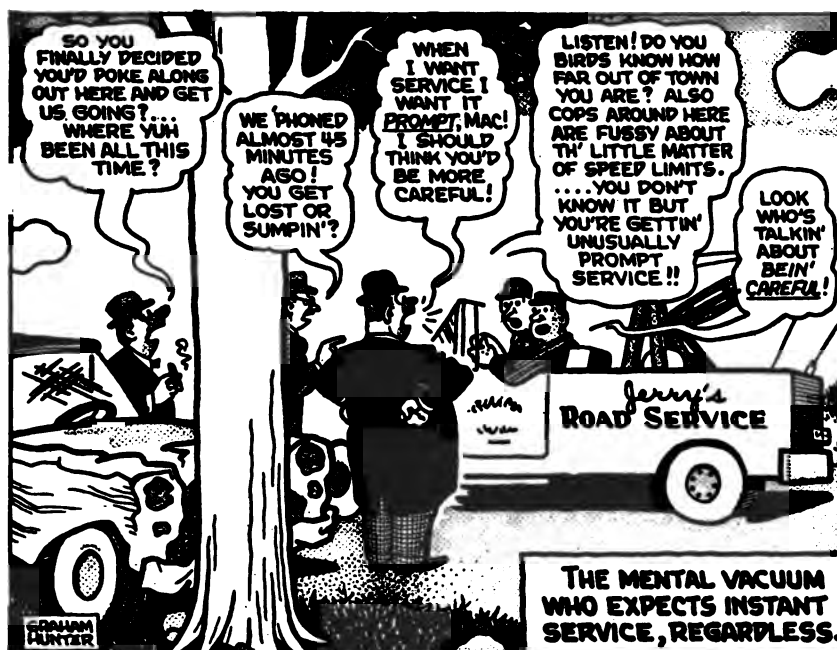
Installs Filter Faster

When installing oil filters on 1954-56 Fords and Mercurys, a great deal of twisting and turning of the filter can be eliminated by first removing the lubrication fitting from the drag link. This applies to cars with and without power steering.

The little extra clearance ob-

[CONTINUED ON PAGE 72]

Getting the Business



Fix It

continued from page 71

tained by removing the fitting makes it much easier to remove and install the filter.

—EDWARD MANZONI
M and B Motor Service
Brooklyn, N. Y.

Quiets Steering

When the owner of a 1958 or later Chevrolet complains of a clicking noise in the steering, check the coupling. It will usually need lubrication, requiring disassembly.

A faster job can be done by drilling a hole in the coupling. Install a fitting and pack the coupling with the special grease recommended for the job. This will eliminate the noise.

—BOB MARINSEK
Navajo Motors Inc.
Gallup, N. M.

Saves Draining Grease

On Internationals with five-speed transmissions, the lower right-hand retaining bolt goes through the transmission housing. Because of this, the transmission is usually drained before it is removed.

To remove the transmission

without having to drain it, cut the head off a 1/2 in. standard bolt 3 in. long. With a hacksaw, slot the end from which the head was removed. Now, when the retaining bolt has been removed, install the stud in its place. Only a small amount of grease is lost and the stud serves as a guide when the transmission is reinstalled.

—LARRY WILHELMSON
Hays Garage
Nevada, Mo.

Stops Grease Leak

When the dust cap on a front wheel leaks grease because of a loose fit, the cap can be quickly restored to size.

Just take a cone from a wheel balancer, insert it in the cap, and squeeze the cap back to shape in a vise. The round knob on a vise handle makes a suitable substitute when a cone is not available. Then install the expanded cap back in the wheel hub to correct the leak.

—PERRY I. HELSETH
Perry's Paint and Body Shop
Vero Beach, Fla.

Simpler Regulator Check

To get a better and faster adjustment on a Chrysler built voltage regulator, drill a 7/32 in. hole through the spring side of the cov-

er, 3/8 in. from the bottom of it, before installing the cover. Then replace the cover and install the regulator on the car.

Connect the wires and, with a test meter in place, start the engine. The voltage setting can then be adjusted, as required, by inserting a small screwdriver through the hole in the cover and bending the spring hanger. After the correct setting has been made, mask the hole in the cover with tape.

The screws which hold the cover in place also secure the regulator to the car. When these screws are tightened the regulator setting is sometimes changed. This procedure can be used to correct any change.

—LEWIS M. RAMSAY
Meriweather Motor Co.
Washington C.H., Ohio

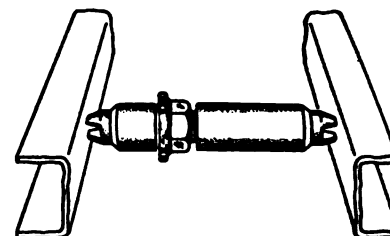
Eliminates Gas Odor

When a customer complains of smelling raw gas in a Corvair equipped with a gasoline heater, the usual procedure is to replace the fuel nozzle and fuel solenoid. However, in many cases this does not correct the trouble.

We have found the condition can be corrected by installing a fuel pressure-regulator. This will eliminate pulsations in the fuel line and stop the heater leak.

—JOHN B. SKINNER, JR.
Williamson Motors
Vivian, La.

Spreads Control Arm



Nut welded to star-wheel makes tool for spreading control arm

On late model Ramblers, the lower control arm must be spread apart when removing and installing a shock absorber. A Bendix brake star-wheel adjuster makes a handy tool for the job. Just place a nut over the threaded end

[CONTINUED ON PAGE 74]

WHEN MOTOR OIL FLOWS THROUGH THIS NEW FRAM "WEAR-GUARD" OIL FILTER



UP TO 40% MORE ENGINE-KILLING SLUDGE IS TRAPPED!

Tests using radioactive tracer techniques proved it! An exclusive scientific breakthrough in the construction of new Fram "Wear-Guard" Oil Filters traps up to 40% more sludge than any other filter tested. Give your customers the finest filtration developed by modern technology: stock and sell famous Fram "Wear-Guard" oil and air Filters.

Fram Corporation, Providence 16, R.I.

FRAM

"WEAR-GUARD" FILTERS

Fix It

continued from page 72

of the star wheel and weld it to the wheel.

Now place the tool between the two sections of the arm, near the shock absorber, and turn the nut with an open-end wrench. This will spread the arm so the shock absorber can be replaced easily.

—DONALD L. BOWMAN
Bonebrake Alignment Shop
Hagerstown, Md.

Pinpoints Oil Leak

When trying to find the source of an oil leak around a rear main bearing or transmission seal, use the following method.

Wash off any excess oil with a cleaning solvent. Then spray the area with a foot powder sold at drug stores in a pressurized can. The powder is a liquid when sprayed but dries quickly. An amber stain on the white powder indicates source of leak.

—BOB SKUTT
Bob's Service
Lansing, Mich.

Retains Pump Drive

On 332, 352 and 390 cu. in. Ford V-8's, a washer, crimped to the hex shaft connecting the distributor and oil pump, bears against a boss on the manifold to keep the shaft from being pulled out of the pump when the distributor is removed. This washer sometimes slips and lets the shaft lift out of the pump and fall into the oil pan.

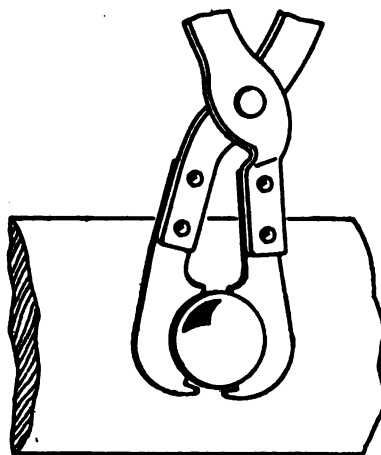
To prevent a recurrence, notch the shaft about 2 in. from the top with a file or hacksaw. Slip an old carburetor-pump spring, or any small coil spring slightly smaller than the shaft, over the top of the shaft. Set the bottom coil on the spring in the notch, with the top coil about $\frac{1}{2}$ in. from the top of the rod. Now place a flat washer above the spring and install the shaft so the flat washer rests against the bottom of the boss. This will keep the shaft in place.

—GRAHAM WILSON
Graham Wilson Auto Repair
Orange, Tex.

BODY TIPS

MOTOR will pay you \$10 for each usable timesaving short cut from the body man

Replaces Chrome Buttons



Door handle clip-remover, placed over molding screw cap

The chrome caps over the screws which retain the moldings on station wagons such as the Ford Country Squire should be removed and installed with care. Don't pry off the caps with a screwdriver since this can scratch the finish.

To remove the caps, use the regular door-handle clip remover. Place it over the cap, apply a light pressure and the cap will pop off.

When installing the cap, don't set it on squarely and hammer it into place. This will damage the cap and it will never be really tight. Instead, place the cap over three of the four prongs. Then

press the cap over the fourth prong. Finger pressure will do the job.

—WALTER D. RANKIN
Ramp Motors
Port Jefferson, N.Y.

Saves Reassembly Time

A great deal of time is lost in finding and matching small parts when it comes to reassembling a major collision repair. This is especially true when the car has been tied up a week or more.

To eliminate this loss of time, place the attaching parts on the inside of each ornament and molding as it is removed, and secure the attaching parts in place with masking tape. Place the items in a box until the car is brought out of the paint shop and is ready to be trimmed.

—BERT J. DOYON
Pontiac Auto Body
Pontiac, Mich.

Stops Handle Rattle

A rattle in the rear window crank of a late model General Motors station wagon can be eliminated quite simply.

Cut segments from a $\frac{1}{4}$ in. wide oil-filter seal and cement them into the groove between the latch and its crank. Then slightly bend the spring that holds the crank down so that the spring will apply more tension.

—ART SCHNEPP
Mellon's Automotive
Spokane, Wash.

How Would YOU Fix It?

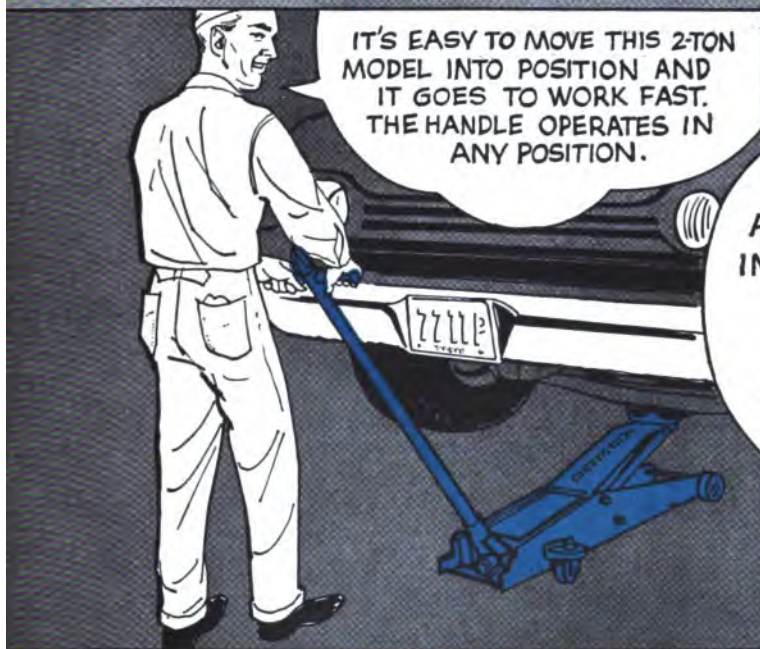
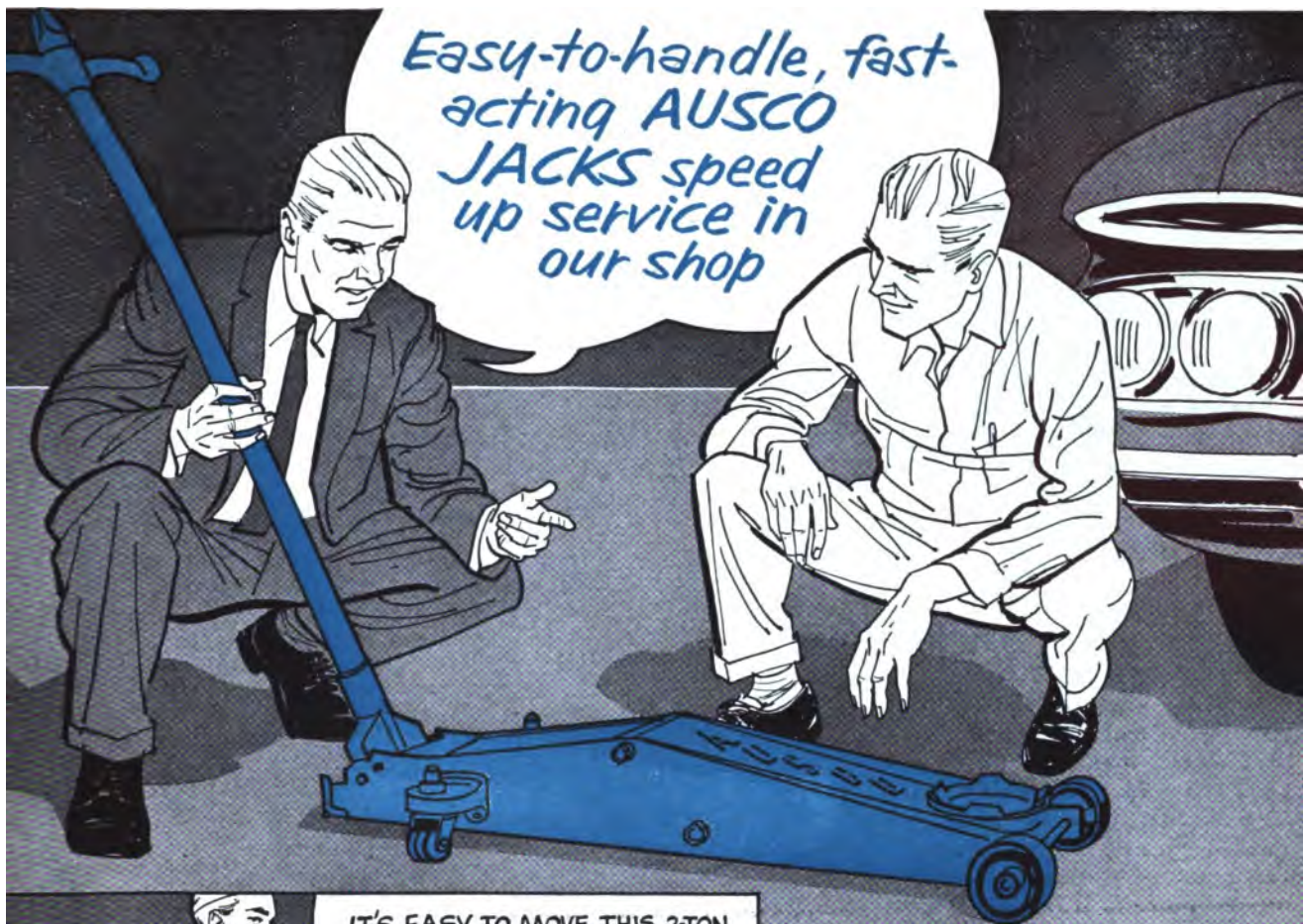
A chance to test your skill as a troubleshooter

► The owner complained that occasionally he couldn't get top speed on his 1957 Buick. Trouble was quickly diagnosed on a road test as fuel starvation. However, when fuel pressure and volume were checked at the inlet to the carburetor, both were found to be normal.

A quick check of float level and

drop on the Rochester four-barrel carburetor showed these were up to specifications. The power valve and high-speed system were inspected next and here, too, the repairman drew a blank.

How would you have tackled the problem at this point? Check your procedure with the answer on page 164.



THERE'S AN AUSCO SERVICE JACK IN A LIFTING CAPACITY TO FIT EVERY SERVICE NEED. SEE THEM AT YOUR AUSCO JOBBER.

One End Lift

AUSCO

AUTO SPECIALTIES MFG. CO.

ST. JOSEPH, MICHIGAN
WINDSOR, ONTARIO, CANADA

20 ton

10 ton

4 ton

2 ton

1 1/2 ton

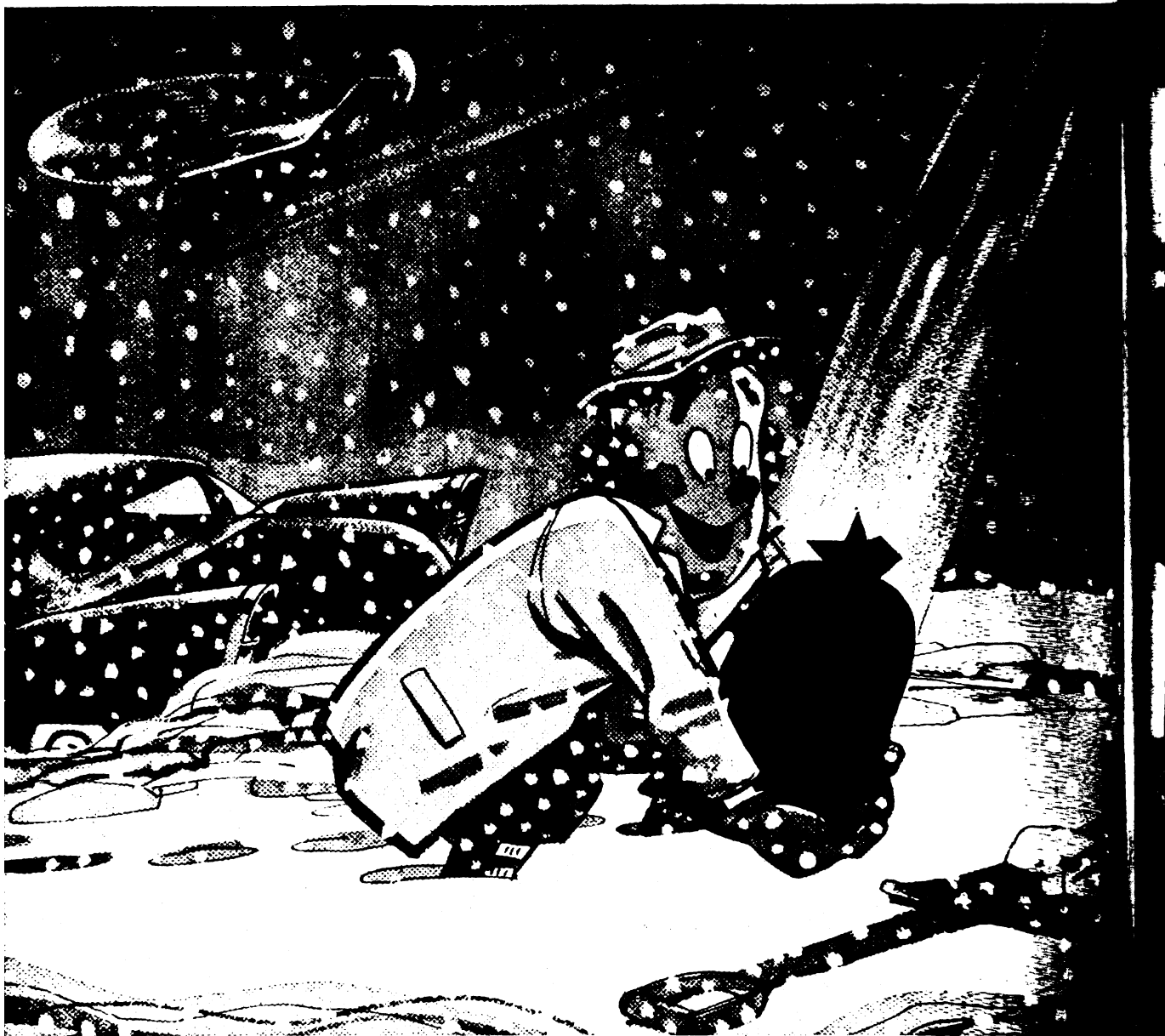
1 1/4 ton

Garage
Horses

Saf-Lift
Bumper
Jacks

Hydraulic
Hand
Jacks

Transmission
Handlers



SELL WEED before the Need

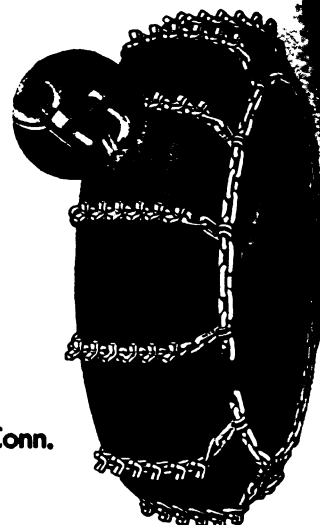
—Ask your customers to buy now

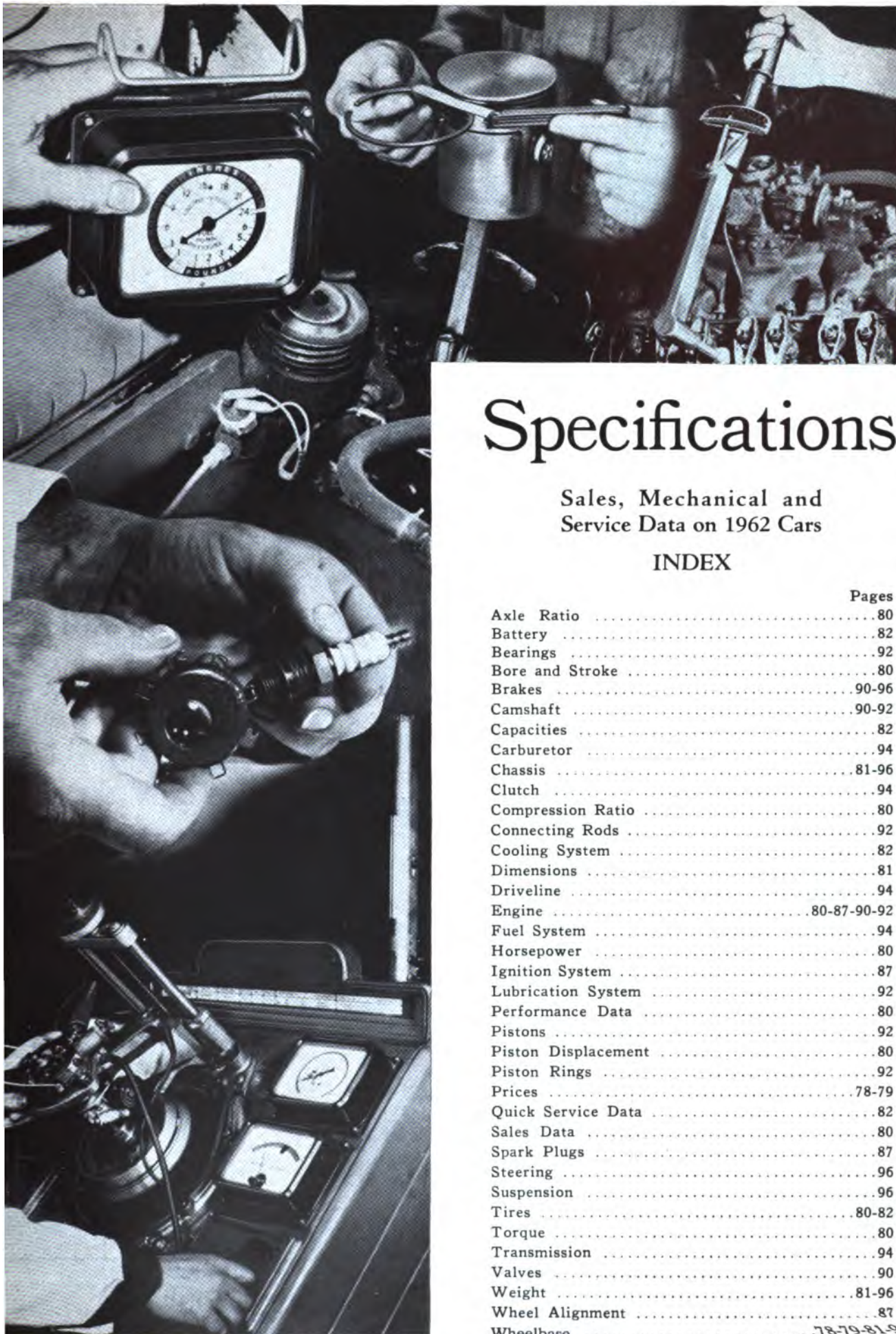
Your customers won't expect you to deliver Weed Chains by helicopter...but they sure will expect you to have WEED V-BAR TIRE CHAINS when Winter hits. On regular or snow tires, Weeds provide short, sure stops...prevent skids on ice or hard-packed snow. They provide "the traction you can trust." Sell them *before* they're needed. Every pair of Weeds you sell early means a profit you won't lose when a storm ties up traffic and swamps you with frantic calls for help. For solid profits and customer satisfaction, sort up your stock and order the Weeds you'll need.

ACCO



American Chain & Cable Company, Inc., York, Pa., Bridgeport, Conn.
In Canada • Dominion Chain Company, Ltd., Niagara Falls, Ont.
In Business for Your Safety





Specifications

Sales, Mechanical and
Service Data on 1962 Cars

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Prices on 1962 Passenger Cars

FACTORY DELIVERED PRICES AND BODY STYLES

Body, Make and Model	Wheelbase	Factory Delivered Price	Power Brakes	Power Steering	Cheapest Radio	Cheapest Heater	Air Conditioning	Automatic Transmission	Body, Make and Model	Wheelbase	Factory Delivered Price	Power Brakes	Power Steering	Cheapest Radio	Cheapest Heater	Air
BUICK									CHRYSLER							
Special									Newport							
Club Coupe	112	2304	42†	86	65	Std	351	180	Sedan 4d	122	2984	47	107	92	101	5
Sedan 4d	112	2358	42	86	65	Std	351	180	Hardtop 2d	122	3027	47	107	92	101	5
Convertible	112	2587	42	86	65	Std	351	180	Hardtop 4d	122	3106	47	107	92	101	5
Station Wagon 6p	112	2655	42	86	65	Std	351	180	Convertible	122	3399	47	107	92	101	5
Station Wagon 9p	112	2736	42	86	65	Std	351	180	Station Wagon 5p	122	3478	47	107	92	101	5
Special Deluxe									Station Wagon 9p	122	3586	47	107	92	101	5
Sedan 4d	112	2593	43	86	65	Std	351	180	Series 300							
Convertible	112	2879	43	86	65	Std	351	180	Hardtop 2d	122	3323	47	107	92	101	5
Station Wagon 6p	112	2890	43	86	65	Std	351	180	Hardtop 4d	122	3430	47	107	92	101	5
Skylark									Convertible	122	3873	47	107	92	101	5
Hardtop 2d	112	2787	43	86	65	Std	351	180	New Yorker							
LeSabre									Sedan 4d	126	4125	Std	Std	92	101	5
Club Coupe	123	3091	43	107	90	Std	430	Std	Hardtop 4d	126	4223	Std	Std	92	101	5
Sedan 4d	123	3227	43	107	90	Std	430	Std	Station Wagon 6p	126	4766	Std	Std	92	101	5
Hardtop 2d	123	3293	43	107	90	Std	430	Std	Station Wagon 8p	126	4873	Std	Std	92	101	5
Hardtop 4d	123	3369	43	107	90	Std	430	Std	Series 300H							
Invicta									Hardtop 2d	122	NA	Std	Std	92	101	5
Hardtop 2d	123	3733	43	107	90	Std	430	Std	Convertible	122	NA	Std	Std	92	101	5
Hardtop 4d	123	3667	43	107	90	Std	430	Std								
Convertible	123	3817	43	107	90	Std	430	Std								
Station Wagon 6p	123	3836*	43	107	90	Std	430	Std								
Station Wagon 9p	123	3917*	43	107	90	Std	430	Std								
Electra																
Sedan 4d	126	4051	Std	Std	90	Std	430	Std								
Hardtop 2d	126	4062	Std	Std	90	Std	430	Std								
Hardtop 4d	126	4186†	Std	Std	90	Std	430	Std								
Convertible	126	4366	Std	Std	90	Std	430	Std								
CADILLAC									DODGE							
Series 62									Lancer 170							
Hardtop 2d	129½	5025	Std	Std	164	Std	473	Std	Sedan 2d	106	1951	42	76	58	74	44
Hardtop 4d	129½	5213	Std	Std	164	Std	473	Std	Sedan 4d	106	2011	42	76	58	74	44
Convertible	129½	5588	Std	Std	164	Std	473	Std	Station Wagon 6p	106	2306	42	76	58	74	44
Coupe deVille									Lancer 770							
Hardtop 2d	129½	5385	Std	Std	164	Std	473	Std	Sedan 2d	106	2062	42	76	58	74	44
Sedan deVille									Sedan 4d	106	2114	42	76	58	74	44
Sedan 4d	129½	5631	Std	Std	164	Std	473	Std	Station Wagon 6p	106	2408	42	76	58	74	44
Sixty Special									G. T. Series							
Sedan 4d	129½	6366	Std	Std	164	Std	473	Std	Hardtop 2d	106	2257	42	76	58	74	44
Eldorado Biarritz									Dart							
Convertible	129½	6610	Std	Std	164	Std	473	Std	Club Coupe 6 cyl.	116	2241	42	76	58	74	44
Series 75									Sedan 4d 6 cyl.	116	2297	42	76	58	74	44
Sedan 9p	149½	9722	Std	Std	246†	Std	623†	Std	Station Wagon 6p 6 cyl.	116	2644	42	76	58	74	44
Limousine	149½	9937	Std	Std	246†	Std	623†	Std	Club Coupe V-8	116	2348	42	76	58	74	44
CHECKER									Sedan 4d V-8	116	2404	42	76	58	74	44
Superba Sedan 4d	120	2542	33	63	67†	48	410†	222°	Station Wagon 6p V-8	116	2751	42	76	58	74	44
Marathon Sedan 4d	120	2650	33	63	67†	48	410†	222°	Dart 330							
Superba Station Wagon 4d	120	2896	33	63	67†	48	410†	222°	Club Coupe 6 cyl.	116	2375	42	76	58	74	44
Marathon Station Wagon 4d	120	3003	33	63	67†	48	410†	222°	Hardtop 2d 6 cyl.	116	2463	42	76	58	74	44
CHEVROLET									Sedan 4d 6 cyl.	116	2432	42	76	58	74	44
Corvair									Station Wagon 6p 6 cyl.	116	2739	42	76	58	74	44
Club Coupe 500	108	1992	No	No	56	Std	349	156	Club Coupe V-8	116	2482	42	76	58	74	44
Club Coupe 700	108	2057	No	No	56	Std	349	156	Hardtop 2d V-8	116	2570	42	76	58	74	44
Sedan 4d 700	108	2111	No	No	56	Std	349	156	Sedan 4d V-8	116	2540	42	76	58	74	44
Station Wagon 700	108	2407	No	No	56	Std	349	156	Station Wagon 6p V-8	116	2848	42	76	58	74	44
Club Coupe Monza	108	2273	No	No	56	Std	349	156	Station Wagon 9p V-8	116	2949	42	76	58	74	44
Sedan 4d Monza	108	2273	No	No	56	Std	349	156	Dart 440							
Station Wagon Monza	108	2569	No	No	56	Std	349	156	Hardtop 2d 6 cyl.	116	2606	42	76	58	74	44
Chevy II									Sedan 4d 6 cyl.	116	2584	42	76	58	74	44
Club Coupe 100 4 cyl. A	110	2003	43	75	56	Std	317	167	Hardtop 2d V-8	116	2713	42	76	58	74	44
Sedan 4d 100	110	2041	43	75	56	Std	317	167	Sedan 4d V-8	116	2691	42	76	58	74	44
Station Wagon 100	110	2339	43	75	56	Std	317	167	Hardtop 4d V-8	116	2763	42	76	58	74	44
Club Coupe 300 4 cyl. A	110	2084	43	75	56	Std	317	167	Convertible V-8	116	2945	42	76	58	74	44
Sedan 4d 300	110	2122	43	75	56	Std	317	167	Station Wagon 6p V-8	116	2986	42	76	58	74	44
Station Wagon 300 (9p only)	110	2517	43	75	56	Std	317	167	Station Wagon 9p V-8	116	3092	42	76	58	74	44
Hardtop 2d 400 6 cyl.	110	2284	43	75	56	Std	317	167	Polaris 500							
Convertible 400	110	2475	43	75	56	Std	317	167	Hardtop 2d	116	3019	42	76	58	74	44
Station Wagon 400	110	2497	43	75	56	Std	317	167	Convertible	116	3268	42	76	58	74	44
Biscayne 6 cyl.																
Club Coupe 2d	119	2324	43	75	56	Std	363	190*								
Sedan 4d	119	2378	43	75	56	Std	363	190								
Station Wagon	119	2725	43	75	56	Std	363	190								
Bel Air 6 cyl.																
Club Coupe 2d	119	2456	43	75	56	Std	363	190								
Sedan 4d	119	2510	43	75	56	Std	363	190								
Hardtop 2d	119	2561	43	75	56	Std	363	190								
Station Wagon 6p	119	2819	43	75	56	Std	363	190								
Station Wagon 9p	119	2922	43	75	56	Std	363	190								
Impala 6 cyl.																
Sedan 4d	119	2662	43	75	56	Std	363	190								
Hardtop 2d	119	2689	43	75	56	Std	363	190								
Hardtop 4d	119	2734	43	75	56	Std	363	190								
Convertible	119	2919	43	75	56	Std	363	190								
Station Wagon 6p	119	2961	43	75	56	Std	363	190								
Station Wagon 9p	119	3064	43	75	56	Std	363	190								
Corvette	102	4038	No	No	1370	Std	No	190								

Prices shown on these pages are those which manufacturers would charge for cars if delivered to retail buyers at their main factories. They include federal tax and a delivery charge but no freight, state or local excise taxes, or optional equipment.

NA—Not available.

*—Estate Wagon.

†—Also available—Riviera Sedan—\$4448.

†—Not available on standard transmissions.

†—Includes rear-seat controls.

†—5 push-button transistor type.

†—For OHV engine only.

†—Prices given for single range A. T. on L-head only.

†—For 6 cyl. add \$80.

making.
for 6 cyl.

◆—Magicair heater.

4—\$189.60 for 8 cyl. cars, \$212.30 for Cruise-O-Matic.

9—Includes power antenna—all Imperials

*—Std. model given—De luxe model add \$135.

I—Sport Coupe \$2294.

• **Spent: Couple Values**

Sales Data on 1962

ENGINE, PERFORMANCE DATA..POWER KITS..AXLE RATIO..TIRE SIZES

continued from page 79

MAKE AND MODEL	Cylinder and Valve Arrangement	Bore and Stroke	Platen Displacement Cu. In.	Horsepower Transable	Maximum Brake Hp @ RPM in Hundreds	Maximum Torque Lb.-Ft. @ RPM in Hundreds	With Power Kit or Optional Engine		Compression Ratio		Rear Axle Ratio			Tire Size	Horsepower per Cu. In. Displacement	Lb. Weight per Hp	3-Speed Trans.	Auto. Trans.	Engine Revs. per Mile
							Max. Brake Hp @ RPM in Hundreds	Max. Torque Lb.-Ft. @ RPM in Hundreds	Standard	Optional	With 3-Speed Transmission	With Auto. Transmission	With Overdrive						
Buick Special 4000.	60	3 1/2 x 3 1/2	198	31.54	135@46	205@24	135@46	205@24	8.80	8.80	3.36	3.08	No	6.50x13	682	2850	2621	No	No
Buick Special 4100 & 4300	80	3 1/2 x 2 1/2	215	39.20	185@46	230@28	185@46	230@28	8.80	10.25	3.36	3.08	No	6.50x13	860	2850	2621	No	No
Buick LaSabre.	80	4 1/4 x 3 3/4	401	56.11	280@44	424@24	325@44	445@28	8.25	9.00	2.78	2.78	No	7.60x15	698				
Buick Invicta, Electra.	80	4 1/4 x 3 3/4	401	56.11	325@44	445@28	325@44	445@28	10.25	10.25	3.23	3.23	No	7.60x15	810				
Cadillac 60, 62.	80	4 x 3 1/2	390	51.20	325@48	430@31	No	No	10.50	No	No	2.94	No	8.00x15	833	No	2120	No	No
Cadillac 75.	80	4 x 3 1/2	390	51.20	325@48	430@31	No	No	10.50	No	No	3.36	No	8.20x15	833	16.4	No	2382	No
Checker L Head.	6L	3 1/2 x 4 1/2	226	26.33	80@31	180@14	No	No	7.3	No	3.73	3.31	4.09	6.70x15	354	41	5	2868	2545
Checker OHV.	60	3 1/2 x 3 1/2	226	26.33	122@40	192@18	No	No	8.0	No	3.73	3.31	4.09	6.70x15	540	27	2	2868	2545
Chevrolet Corvair.	60	3 1/2 x 2 1/2	145	28.40					8.0	9.0	3.27	3.27	No	6.50x13					
Chevy II 4.	40	3 1/2 x 3 1/2	153	24					8.5:1	8.50	3.08	3.36	No	6.00x13					
Chevy II 6.	60	3 1/2 x 3 1/2	194	30 1/2					8.5	8.5	3.08	3.08	No	6.00x13					
Chevrolet 6.	60	3 1/2 x 3 1/2	235 1/2	30.40					8.25	No	3.36	3.36	3.70	7.50x14			2651	2651	300
Chevrolet V-8 283 cu. in.	80	3 1/2 x 3	283	48	170@42	275@22	No	No	8.5:1	8.5:1	3.36	3.36	3.70	7.50x14	601	20	3		
Chevrolet V-8 327 cu. in.	80	4 x 3 1/2	327	51 1/2					10.50	10.50	3.36	3.08	No	7.50x14			2651	2651	300
Chevrolet V-8 400 cu. in.	80	4 1/2 x 3 1/2	409	59 1/2					11.00	11.00	3.36	No	No	7.50x14					
Chevrolet Corvette.	80	4 x 3 1/2	327	51 1/2					10.51	11.25	3.36	3.36	No	6.70x15			2554	2554	No
Chrysler Newport.	80	4 1/4 x 3 1/2	361	54.3	265@44	380@24	No	No		9.00	3.23	2.93	No	8.00x14	734	14	2680	2227	No
Chrysler 300.	80	4 1/4 x 3 1/2	383	57.8	305@46	410@24	340@46	470@28	No	10.00	3.23	3.23	No	8.00x14	796	12	5	No	2180
Chrysler 300H.	80	4 1/4 x 3 1/2	413	55.9	380@50	450@36	No	No	No	10.10	No	3.23	No	7.60x15	920	10	5	2188	2188
Chrysler New Yorker.	80	4 1/4 x 3 1/2	413	55.9	340@46	470@28	No	No	No	10.10	No	2.93	No	8.50x14	823	11	5	No	2145
Dodge Lancer.	60	3 1/2 x 3 1/2	170	27.70	101@44	155@24	145@40	215@28	8.20	No	3.55	3.23	No	6.50x13	594	25	1	3007	2738
Dodge Dart 6.	60	3 1/2 x 4 1/2	225	27.70	145@40	215@28	305@48	395@30	9.00	No	3.31	2.93	No	6.50x14	644	20	7	2936	2671
Dodge Dart V-8.	80	3 1/2 x 3 1/2	318	48.90	230@44	340@24	260@44	345@28	9.0	No	3.23	2.76	No	7.00x14	723	13	7	2850	2593
Dodge Polara V-8.	80	4 1/2 x 3 1/2	361	54.3	305@48	395@30	No	No	10.0	No	3.23	2.76	No	7.00x14	845	10	3	2850	2593
Dodge 11-500 Engine.																			
Ford Falcon.	60	3 1/2 x 2 1/2	144	32.94	85@42	134@20	101@44	156@24	8.7	8.7	3.10	3.10	No	6.00x13	930	17		2780	2780
Ford Galaxie 6.	60	3 1/2 x 3 1/2	223	31.5	138@42	203@22	No	No	8.4	No	3.56	3.56	3.89	7.5x14	910	18		2798	2798
Ford Galaxie 292 cu. in.	V80	3 1/2 x 3 1/2	292	45	170@42	279@22	No	No	8.8	No	3.56	3.56	3.56	7.5x14	955	13		2798	2358
Ford Galaxie 352 cu. in.	V80	4 x 3 1/2	352	51.2	220@43	336@26	No	No	8.9	No	3.56	3.0	3.56	7.5x14	945	11		2798	2358
Ford Galaxie 390 cu. in.	V80	4 1/2 x 3 1/2	390	52.4	300@46	427@28	330@50	427@32	9.6	9.6	3.56	3.0	3.56	7.5x15	958	9		2798	2358
Imperial.	80	4 1/2 x 3 1/2	413	55 1/2	340@46	470@28	No	No	10 1/2	No		2.93	No	8.20x15	823	13	7	No	2116
Lincoln Continental.																			
Mercury Comet.	60	3 1/2 x 2 1/2	144	29.40	85@42	134@20	101@44	156@24	8.7	No	3.50	3.50	No	6.00x13	598	29	9	3139	3139
Mercury Meteor 6.	60	3 1/2 x 2 1/2	170		101@44	156@24			8.7	No	3.50		No	6.50x14	594	29	4		
Mercury 6.	60	3 1/2 x 2 1/2	223	31.54	138@42	203@22	No	No	8 1/2	No	3.56	3.56	No	7.50x14	619	28	8	2798	2798
Mercury V-8 292 cu. in.	80	3 1/2 x 3 1/2	292	45.00	170@42	279@22	No	No	8 1/2	No	3.56	3.00	No	7.50x14	582	23	4	2798	2358
Mercury V-8 352 cu. in.	80	4 x 3 1/2	352	51.20	220@43	336@26	No	No	8 1/2	No	3.56	3.00	No	7.50x14	625	18	1	2798	2358
Mercury V-8 390 cu. in.	80	4 1/2 x 3 1/2	390	52.50	300@46	427@28	330@50	427@32	9.6	No	No	3.00	No	7.50x14	769	13	2	2798	2358
Oldsmobile F85.	80	3 1/2 x 2 1/2	215 1/2	39 1/2	155@48	210@32	185@48	230@32	8.75	No	3.08	3.23	No	6.50x13	721	16	8	1968	2064
Oldsmobile 88.	80	4 1/2 x 3 1/2	394	54	280@44	430@24	330@46	440@24	10.75	8.75	3.23	2.56	No	8.00x14	711	14	7	2439	1932
Oldsmobile Super 88, 98.	80	4 1/2 x 3 1/2	394	54	330@46	440@28	No	No	10.75		3.23	2.87	No	8.50x14	837	12	5	2439	2167
Plymouth Valiant.	60	3 1/2 x 3 1/2	170	27 1/2	101@44	155@24	101@44	155@24	8.20	No	3.55	3.23	No	6.50x13	594	24	7	3006	2738
Plymouth 6.	60	3 1/2 x 4 1/2	225	27 1/2	145@40	215@28	145@40	215@28	8.20	No	3.31	2.93	No	6.50x14	644	21	4	2936	2671
Plymouth V-8, 318 cu. in.	80	3 1/2 x 3 1/2	318	48 1/2	260@44	345@28	260@44	345@28	9	No	3.23	2.76	No	7.00x14	818	11	9	2850	2593
Plymouth V-8, 361 cu. in.	80	4 x 3	361	54 1/2	305@48	395@30	305@48	395@30	9	No	3.23	2.76	No	7.00x14	845	10	2	2850	2593
Pontiac Tempest.	40	4 1/2 x 3 1/2	194 1/2	26.40	110@30	190@20	185@48	230@28	8.6	8.8	3.31	3.08	No	6.00x15	567	25	6	2631	2448
Pontiac Catalina, S. Chief.	80	4 1/2 x 3 1/2	389	52.80	215@36	390@20	230@40	380@20	8.6	8.6	3.23	2.69	No	8.00x14	553	17	4	2419	2014
Pontiac Bonneville.	80	4 1/2 x 3 1/2	389	52.80	235@36	402@20	No	No	8.6	8.6	3.23	3.08	No	8.00x14	604	16	4	2419	2306
Pontiac Grand Prix.	80	4 1/2 x 3 1/2	389	52.80	303@46	425@28	303@46	425@28	10.25	10.25	3.42	3.25	No	8.00x14	779	9	2	2561	2419
Rambler Deluxe & Custom.	6L	3 1/2 x 4 1/2	195	6.23	90@38	160@16	125@42	180@16	8.0	8.7	2.87	3.31	No	6.00x15	461	27	2	2678	2678
Rambler American 400.	60	3 1/2 x 4 1/2	195	6.23	125@42	180@16			8.70				No	6.00x15	641	22	9	2321	2321
Rambler Classic 6.	60	3 1/2 x 4 1/2	195	6.23	127@42	180@16	138@45	185@18	8.7	8.7	3.78	3.51	4.11	6.50x15	650	22	5	2997	2624
Rambler Amb. V-8.	80	4 x 3 1/2	327	51.20	250@47	340@26	270@47	360@26	8.7	9.7	3.54	2.87	3.54	7.50x14	764	13	0	2775	2250
Studebaker Lark 6.	60	3 x 4	169	6.21	112@45	154@20	No	No	8.25	No	3.73	3.73	4.10	6.00x15	663	24	7	2965	2965
Studebaker Lark V-8.	80	3 1/2 x 3 1/2	259	2.40	180@45	260@28	195@45	265@30	8.50	No	3.07	3.07	3.54	6.50x15	695	15	4	2540	2364
Studebaker Hawk V-8.	80	3 1/2 x 3 1/2	289	4.00	210@45	300@28	225@45	305@30	8.50	No	3.31	3.07	3.54	6.70x15	727	15	4	2462	2312
Thunderbird.	80	4 1/2 x 3 1/2	390	52.40	300@46	427@28	340@50	430@32	9.6	10.5	No	3.00	No	8.00x14	769	14	No	2331	No

a—Invicta figure given, Electra is 8.00x15

b—Invicta figure given, Electra is 2335

c—Suburbans 7.50x14, 9-passenger Suburban, 8.00x14

H—Horizontal opposed

O—Overhead valve

*—Engine option

^—8.50x14 on Newport Station Wagon, 9.00x14 on New Yorker Station Wagon

†—Monza with Powerglide

*—Figure given for 4300, 4100 figures are 155@4000 for BPH@RPM and

220@24 for Torque@RPM

*—Figure given for Catalina, Star Chief figure is 3.08

♦—Station Wagons 6.50x13

♦—Oldsmobile 98, 3-speed transmission not available, tire size—8.50x14, axle ratio with Hydra-Matic—3.08, lb. Wt. per Hp—13.4, Engine Rev. per Mi. 2264

†—Station Wagons have 8.00x14 tires

□—PowerFlite ratio given, Torque Flite is 2.93

■—Invicta figure given, Electra is 12.3

■—Series 60 figure given, Series 62 is 14.3

■—Figure given for 4100, 4300 figure is 10.25

♦—Figure given for 4 cyl. 6 cyl. is 60

†—Figure given for the Catalina, Star Chief figure is none

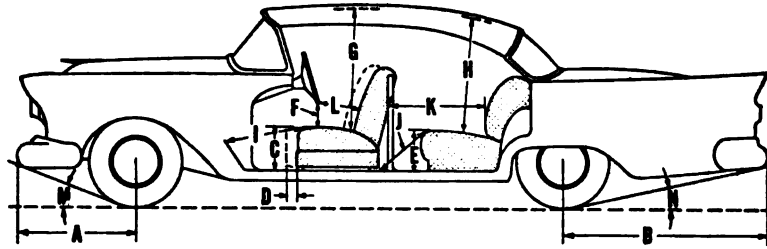
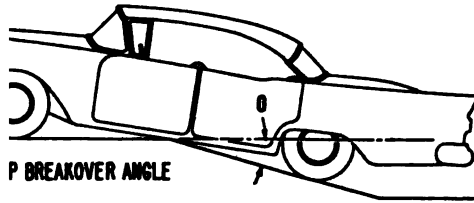
♦—Invicta figure given, Electra is 8.00x15

♦—4.10 optional

Passenger Cars

IMPORTANT BODY, CHASSIS DIMENSIONS

Four-Door Sedans except as Noted



MAKE AND MODEL	Shipping Weight	EXTERIOR DIMENSIONS										INTERIOR DIMENSIONS														
		Wheelbase	Over-all Length Incl. Bumper	Width	Height	TREAD		Front Overhang	Rear Overhang	Approach Angle (Deg.)	Departure Angle (Deg.)	Ramp Angle (Deg.)	Front Seat Hip Room	Rear Seat Hip Room	Height of Front Seat Cushion	Front Seat Horizontal Adjustment	Height of Rear Cushion	Distance Steering Wheel to Cushion	Head Room at Front Seat	Head Room at Rear Seat	Leg Room in Front Seat	Leg Room in Rear Seat	Back of Front Seat to Front of Rear Seat	Steering Wheel to Front of Seat Back		
						Front	Rear																			
Alfa Romeo 112	112	188 3/4	71 1/2	56	56	61	61	34 1/2	60 1/2	25 1/2	12 1/2	11 1/2	58 1/2	58 1/2	12	4 1/2	14	5 1/2	34 1/2	34 1/2	44 1/2	38 1/2	27 1/2	15 1/2	15 1/2	15 1/2
Alfa Romeo 123	123	214 1/2	78	62	61	61	61	34 1/2	60 1/2	25 1/2	12 1/2	11 1/2	63 1/2	63 1/2	12	4 1/2	14	5 1/2	34 1/2	34 1/2	44 1/2	41 1/2	28 1/2	15 1/2	15 1/2	15 1/2
Alfa Romeo 126	126	220 1/2	78	62	61	61	61	34 1/2	60 1/2	25 1/2	12 1/2	11 1/2	63 1/2	63 1/2	12	4 1/2	14	5 1/2	34 1/2	34 1/2	44 1/2	44	31 1/2	15 1/2	15 1/2	15 1/2
Alfa Romeo 4640	129 1/2	222	79 1/2	61	61	34 1/2	60 1/2	25 1/2	12 1/2	11 1/2	63 1/2	63 1/2	12	4 1/2	14	5 1/2	34 1/2	34 1/2	45 1/2	44 1/2	31 1/2	15 1/2	15 1/2	15 1/2	15 1/2	
Alfa Romeo 4710	129 1/2	222	79 1/2	61	61	34 1/2	60 1/2	25 1/2	12 1/2	11 1/2	63 1/2	63 1/2	12	4 1/2	14	5 1/2	34 1/2	34 1/2	45 1/2	44 1/2	31 1/2	15 1/2	15 1/2	15 1/2	15 1/2	
Alfa Romeo 5325	149 1/2	242 1/2	80 1/2	61	61	34 1/2	60 1/2	24 1/2	13 1/2	11 1/2	63 1/2	63 1/2	12	4 1/2	12 1/2	5 1/2	34 1/2	34 1/2	44 1/2	No	15 1/2	15 1/2	15 1/2	15 1/2	15 1/2	
Alfa Romeo perba	3320	120	202	76	62 1/2	60	62 1/2	32 1/2	46 1/2	18	16	14	62 1/2	52 1/2	13	5	13	6 1/2	34 1/2	34 1/2	42	46	42 1/2	15	15	
Alfa Romeo Torvaio	2370	108	180	67	51 1/2	54 1/2	54 1/2	30 1/2	41 1/2	27	16	16	58 1/2	57	10	11 1/2	14	5	34	35 1/2	44	36 1/2	24 1/2	17 1/2	17 1/2	
Alfa Romeo lineayne, Bel Air, Impala	3455	119	209 1/2	79	55 1/2	60 1/2	60 1/2	32 1/2	47 1/2	27	13	11	63 1/2	63 1/2	11	4 1/2	14	5	34 1/2	34 1/2	44	42	28 1/2	16	16	
Alfa Romeo Corvette and 6	2905	102	176 1/2	70 1/2	52 1/2	57	59	31 1/2	42 1/2	27 1/2	21 1/2	10 1/2	59 1/2	59	12	4	13	5 1/2	35 1/2	35 1/2	40 1/2	No	10 1/2	10 1/2	10 1/2	
Alfa Romeo 2430	110	180	70 1/2	55	56 1/2	56 1/2	56 1/2	27	46	32	17 1/2	17 1/2	59	59	12	4	13	5 1/2	39	38	43 1/2	38 1/2	18	17	17	
Alfa Romeo report	3720	122	214 1/2	79 1/2	55 1/2	55 1/2	59 1/2	34 1/2	58 1/2	15 1/2	12 1/2	12 1/2	63 1/2	62 1/2	11 1/2	4 1/2	13	5 1/2	37 1/2	33 1/2	45 1/2	40 1/2	29 1/2	16 1/2	16 1/2	
Alfa Romeo 0	3810	122	214 1/2	79 1/2	55 1/2	55 1/2	59 1/2	34 1/2	58 1/2	16 1/2	12 1/2	12 1/2	63 1/2	62 1/2	11 1/2	4 1/2	13	5 1/2	37 1/2	33 1/2	45 1/2	40 1/2	29 1/2	16 1/2	16 1/2	
Alfa Romeo New Yorker	3950	126	219 1/2	79 1/2	55 1/2	59 1/2	59 1/2	34 1/2	58 1/2	18	12 1/2	12 1/2	63 1/2	62 1/2	11 1/2	4 1/2	13	5 1/2	37 1/2	33 1/2	45 1/2	40 1/2	29 1/2	16 1/2	16 1/2	
Alfa Romeo OH	4010	122	216 1/2	79 1/2	55 1/2	61 1/2	61 1/2	34 1/2	58 1/2	16 1/2	12 1/2	12 1/2	63 1/2	62 1/2	11 1/2	4 1/2	13 1/2	5 1/2	37 1/2	34 1/2	45 1/2	35 1/2	28 1/2	11 1/2	11 1/2	
Alfa Romeo	2544	114	194 1/2	70 1/2	54 1/2	55	54 1/2	30 1/2	50	23 1/2	12 1/2	12 1/2	57	57	11 1/2	4	14 1/2	5	34 1/2	32 1/2	43 1/2	39 1/2	27 1/2	13	13	
Alfa Romeo ber	2535	108 1/2	188 1/2	72 1/2	53 1/2	55 1/2	53 1/2	32 1/2	49 1/2	7 1/2	13 1/2	11 1/2	56 1/2	56 1/2	11 1/2	4 1/2	13 1/2	5	33 1/2	33 1/2	42 1/2	3 1/2	27 1/2	14 1/2	14 1/2	
Alfa Romeo 3010	116	202	76 1/2	53 1/2	5 1/2	57 1/2	34 1/2	51 1/2	20 1/2	13 1/2	13 1/2	11 1/2	60 1/2	61	11 1/2	4 1/2	12 1/2	5 1/2	33 1/2	33 1/2	40 1/2	3 1/2	28 1/2	15	15	
Alfa Romeo 3155	116	202	75 1/2	54	59 1/2	57 1/2	34 1/2	51 1/2	21 1/2	12 1/2	11 1/2	11 1/2	60	61	10 1/2	3 1/2	12 1/2	5 1/2	34 1/2	33 1/2	40 1/2	3 1/2	30 1/2	15 1/2	15 1/2	
Alfa Romeo n	2299	109 1/2	181	70 1/2	54 1/2	55	54 1/2	29	42	23	15	13	57 1/2	57	11 1/2	4	14 1/2	5 1/2	34	33	43 1/2	39 1/2	26 1/2	13	13	
Alfa Romeo ne, 500, Galaxie	3679	119	209	79	54 1/2	61	60	32 1/2	58	21	11	11	62 1/2	63	9	5 1/2	13	5 1/2	33 1/2	34	44 1/2	40 1/2	30 1/2	14	14	
Alfa Romeo	4665	129	227 1/2	81 1/2	56 1/2	61 1/2	62 1/2	40 1/2	57 1/2	14 1/2	10 1/2	11 1/2	61	60 1/2	11 1/2	4 1/2	12 1/2	5 1/2	34 1/2	33 1/2	47	42 1/2	31 1/2	18 1/2	18 1/2	
Alfa Romeo ntinental	5132	123	213	78	53 1/2	62 1/2	61	36 1/2	52 1/2	21 1/2	12 1/2	11 1/2	59 1/2	60 1/2	10 1/2	5 1/2	13 1/2	5 1/2	33 1/2	33 1/2	44 1/2	46 1/2	28 1/2	14 1/2	14 1/2	
Alfa Romeo eteor 6	2990	116 1/2	203 1/2	71 1/2	55 1/2	61	60	35 1/2	80 1/2	19 1/2	11	11 1/2	58 1/2	58 1/2	10 1/2	5 1/2	13 1/2	5 1/2	33 1/2	33 1/2	45 1/2	38 1/2	27 1/2	12 1/2	12 1/2	
Alfa Romeo eteor 8	2986	116 1/2	203 1/2	71 1/2	55 1/2	61	60	35 1/2	80 1/2	19 1/2	11	11 1/2	57 1/2	57 1/2	10 1/2	5 1/2	13 1/2	5 1/2	33 1/2	33 1/2	45 1/2	38 1/2	27 1/2	12 1/2	12 1/2	
Alfa Romeo 3982	120	215 1/2	79 1/2	54 1/2	61	60	35 1/2	80 1/2	19 1/2	11	11 1/2	11 1/2	67 1/2	63 1/2	8 1/2	5 1/2	13 1/2	5 1/2	33 1/2	33 1/2	43 1/2	41 1/2	31 1/2	12 1/2	12 1/2	
Alfa Romeo F85	2598	112	188 1/2	71 1/2	52 1/2	56	56	30 1/2	45 1/2	27 1/2	17 1/2	12 1/2	58 1/2	58 1/2	10 1/2	3 1/2	13	5 1/2	33 1/2	33 1/2	43 1/2	40 1/2	28 1/2	13 1/2	13 1/2	
Alfa Romeo 88, Super 88	4031	123	213 1/2	77 1/2	55 1/2	61	61	33 1/2	57 1/2	30 1/2	12 1/2	12 1/2	63 1/2	63 1/2	12	4 1/2	13 1/2	4 1/2	34 1/2	34 1/2	44 1/2	41 1/2	28 1/2	13 1/2	13 1/2	
Alfa Romeo 98	4261	126	220	77 1/2	56 1/2	61	61	33 1/2	60 1/2	30 1/2	12 1/2	12 1/2	63 1/2	63 1/2	12 1/2	4 1/2	14 1/2	5	34 1/2	34 1/2	44 1/2	44 1/2	31 1/2	13 1/2	13 1/2	
Alfa Romeo /aliant	2500	106 1/2	184 1/2	70 1/2	53 1/2	56	55 1/2	29 1/2	40 1/2	20 1/2	13 1/2	11 1/2	56 1/2	56 1/2	11 1/2	4 1/2	12 1/2	5 1/2	33 1/2	33 1/2	42 1/2	3 1/2	27 1/2	14 1/2	14 1/2	
Alfa Romeo 3160	116	202	75 1/2	53 1/2	59 1/2	57 1/2	34 1/2	59 1/2	21 1/2	12 1/2	12 1/2	11 1/2	60 1/2	61	10 1/2	3 1/2	12 1/2	5 1/2	33 1/2	33 1/2	46	39 1/2	30 1/2	15	15	
Alfa Romeo mpost talina	2816	112	189 1/2	72 1/2	53 1/2	56 1/2	56 1/2	31 1/2	45 1/2	26 1/2	18	12 1/2	58 1/2	58 1/2	11	4 1/2	12 1/2	4 1/2	34	33 1/2	44 1/2	37 1/2	26 1/2	15 1/2	15 1/2	
Alfa Romeo r Chief	3749	120	211 1/2	78 1/2	55 1/2	62 1/2	62 1/2	35 1/2	55 1/2	23	13 1/2	13 1/2	63 1/2	63 1/2	12 1/2	4 1/2	13 1/2	5 1/2	34 1/2	34 1/2	45 1/2	47 1/2	27 1/2	15	15	
Alfa Romeo r Chief	3865	123	218 1/2	78 1/2	55 1/2	62 1/2	62 1/2	35 1/2	55 1/2	23	12 1/2	13 1/2	63 1/2	63 1/2	12 1/2	4 1/2	13 1/2	5 1/2	34 1/2	34 1/2	45 1/2	41 1/2	27 1/2	15 1/2	15 1/2	
Alfa Romeo nneville	3933	123	218 1/2	78 1/2	55 1/2	62 1/2	62 1/2	35 1/2	55 1/2	23	12 1/2	13 1/2	63 1/2	63 1/2	12 1/2	4 1/2	13 1/2	5 1/2	34 1/2	34 1/2	45 1/2	41 1/2	27 1/2	15 1/2	15 1/2	
Alfa Romeo and Prix	3795	120	211 1/2	78 1/2	54 1/2	62 1/2	62 1/2	35 1/2	55 1/2	23	13 1/2	13 1/2	63 1/2	63 1/2	11 1/2	3 1/2	13 1/2	5 1/2	33 1/2	33 1/2	44 1/2	40 1/2	26 1/2	15	15	
Alfa Romeo merican	2454	100	173 1/2	70	56 1/2	54 1/2	55	28 1/2	44 1/2	24	14 1/2	14	58	45	11	6	12	5 1/2	35	33	44	37 1/2	26 1/2	13 1/2	13 1/2	
Alfa Romeo issio 6	2866	106	190	72 1/2	57 1/2	58 1/2	58	32 1/2	49 1/2	21	13 1/2	14 1/2	59 1/2	60	10 1/2	6	13 1/2	5 1/2	36	34 1/2	43 1/2	40 1/2	27 1/2	13 1/2	13 1/2	
Alfa Romeo mbassador V-8	3249	106	190	72 1/2	57 1/2	58 1/2	59 1/2	32 1/2	49 1/2	21	13 1/2	14 1/2	59 1/2	60	10 1/2	6	13 1/2	5 1/2	36	34 1/2	43 1/2	40 1/2	27 1/2	13 1/2	13 1/2	
Alfa Romeo Lark	2770	109	189	71 1/2	56 1/2	57 1/2	56 1/2	28 1/2	40 1/2	28 1/2	17 1/2	12 1/2	59 1/2	59 1/2	10 1/2	5 1/2	11 1/2	5 1/2	36 1/2	35 1/2	44 1/2	42	29	13 1/2	13 1/2	
Alfa Romeo Hawk	3230	113	204	71 1/2	55 1/2	57 1/2	56 1/2	34 1/2	48 1/2	20	17	14 1/2	59 1/2	59 1/2	10 1/2	5 1/2	11 1/2	5 1/2	34 1/2	33 1/2	44 1/2	38 1/2	27 1/2	13 1/2	13 1/2	
Alfa Romeo d	4132	113	205	76	62 1/2	61	60	38	53 1/2	19	12	11 1/2	58 1/2	59 1/2	11 1/2	4 1/2	12 1/2	5 1/2								

continued from page 81

- Under floor mat on Hawk models.
- ▲ 26" on Series 4000-4100 station wagon rear tire
- ▲▲ Hawk and Lark Model 44 axle capacity given. Last Model 27 capacity is 2½ pt.
- On Station Wagons, 24 lb. empty, 28 lb. fully loaded
- †† Top section under bumper
- ▲ Right front of luggage compartment under plate
- † Lark V8 figure given. Hawk tire size is 6.70x15
- † Add 1 qt. if equipped with filter
- §—Intake manifold thermostat figure given, block thermostat open at 137-143 deg.
- ▲—Rear tire pressure for Station Wagons is 24, with full load operation, 28
- ♀—Rear tire pressure for Station Wagons is 26
- ♂—Station Wagon 19 gal.
- 3 speed transmission figure given, 4 speed is 1½ pt.
- ▲▲ Air thermostats bellows
- Station Wagon 21 gal.
- ⊕—Station Wagon 6.60 x 13

MOTOR, November 1961

Mechanical Data on 1962 Cars

TUNE-UP DATA.. IGNITION.. WHEEL ALIGNMENT

continued from page 82

MAKE AND MODEL	IGNITION								WHEEL ALIGNMENT				
	Spark Plug Gap	Breaker Gap	Cam Angle	Centr. Advance Start (RPM) (Crankshaft)	Centr. Advance (Max. Deg. @ RPM) (Crankshaft)	Vacuum Advance Starts (In. Mercury)	Vacuum Advance (Max. Deg. @ In. Mercury)	Timing		Caster Angle (Degrees)	Camber Angle (Degrees)	Toe-In (Inches)	Steering Axis Inclination (Degrees)
								Points Open Degrees	Timing Mark				
Invicta, Electra.....	.033	.015	30+1	450-800	28@3700	6-8	17½@16	7.5	H	½Neg...±½	0±.¼	¼-¾	7°30'±
	.033	.015	30+1	550-900	22@3800	8-10	17½@18	12B	H	1Neg...1½	¾±.¾	¾-¾	9°52'±
5.....		.016	30	400	7-9@2000	8-10	10½-12@15-20	5B	D				
6 L-Head.....	.029	.019	30	550	18@3350			4B	D	+2	+¼ ± 1½	¼-¾	7
6 OHV.....	.032	.019	30	500	33@2400	0-10	10@15	3½B	D	+2	+¼ ± 1½	¼-¾	7
	.035	.019	32-34	400	32@3600	6	23@15½	5B	F	0 ± 30'	+30 ± 30'	¼-¾	7
	.035	.019	28-35	600	26@3500	6	22@15½	5B	F	0 ± 30'	+30 ± 30'	¼-¾	7
3 cu. in. ....	.035	.019	26-33	600	26@3750	8	15@15½	4-6	F	0 ± 30'	30' ± 30'	¼-¾	7
7 cu. in. ....	.035	.019	26-33	600	26@3750	8	15@15½	4-10B	D	0 ± 30'	30' ± 30'	¼-¾	7
9 cu. in. ....	.035	.019	26-33	700	24@4000			4-8B	D	0 ± 30'	30' ± 30'	¼-¾	7
to.....	.035							10 ± 1B	D	2 ± 30'	0' ± 30'	¾-¾	3½-4½
	.035	.019	31-34	600		6	23@12	4B	D				
1,300 rher.....	.035	.017	27-32	250-450	10.5-12.5@2150	4.5-8.0	11.5-14.5@16.5	10B	C	± ¼ ± ½	Δ	¾-¾	6½*
	.035	.017	27-32	250-450	10.5-12.5@2150	4.5-8.0	11.5-14.5@16.5	10B	C	± ¼ ± ½	Δ	¾-¾	6½*
	.035		34-40	325-475	9-11@2400	7.2-8.9	7.5-10.5@14.5	10B	C		Δ	¾-¾	6½*
	.035	.017	40-45	325-475	12½-14½@2200	5-7½	9½-12½@12½	2½B	D	Δ	Δ	¾-¾	7½*
	.035	.017	40-45	325-475	10½-12½@2300	4½-7½	5½-7½@13	2½B	D	Δ	Δ	¾-¾	7½*
	.035	.014	27-32	330-570	8-10@2300	8-10	12-15@18	10B	D	Δ	Δ	¾-¾	7½*
	.035	.014	34-40	275-425	11-13@2050	7½-9½	9½-12½@16	10B	D	Δ	Δ	¾-¾	7½*
	.034	.025	35-38				27-31@5.35	10B	I	1¼ ± ¼	45' ± 30	¾-¾	7
	.034	.026	35-38			30	28-31@7.8	10B	D	± ½	¼-1	¾-¾	6
in.....	.034	.015	26-28	400	20.5@4000	7	19-25@18.5	10B	D	± ½	¼-1	¾-¾	6
9 cu. in. ....	.034	.015	26-28	400	23@4000	5	19-25@16	10B	D	± ½	¼-1	¾-¾	6
	.035	.014	27-32	0@310-400	8½-10½@2300	0@6-9	8.3-11.0@15	10B	C	+¼ ± ½	Δ	¾-¾	6½
tal.....	.034	.015	26-28½	700	30@4000	6	22@18	6B	D	0-1½°	0-+½°	¾-¾	7°
	.034	.025	35-38	No	No	0	27-29.5@5½	4B†	D	+1½	+¼ ± ½	¾-¾	7
6.....	.034	.025	35-38	No	No	¾	26@6	4†	D	-½ ± ½	+¼ ± 1	¾-¾	6½
8.....	.034	.015	26-28½	1000	20.5-23.5@4000	7	19-25@20	3†	D	-½ ± ½	+¼ ± 1	¾-¾	6½
cu. in. ....	.034	.015	26-28½	1000	23-26@4000	5½	19-25@17½	3B†	D	-½ ± ½	+¼ ± 1	¾-¾	6½
390 cu. in. ....	.030	.016	28-32	800	24@4200	5-7	25½@16	5B	D	-¾ -1½	-¾ ± ¾	¾	7½
	.030	.016	28-32	800	24-28@4000	7-9	26@17	5B	D	-¾ -1½	-¾ ± ¾	0-¾	10
	.035	.020	40-45	325-475	12½-14½@2200	5-7	9½-12½@12½	2½B	C	Δ	Δ	¾-¾	7.5*
	.035	.017	40-45	325-475	10½-12½@2300	4½-7½	5½-7½@13	2½B	C	Δ	Δ	¾-¾	7.5*
8 cu. in. ....	.035	.017	27-32	330-570	8-10@2300	8-10	12-15@18	5B	C	Δ	Δ	¾-¾	7.5*
1 and 383 cu. in. ....	.035	.017	27-32	275-425	11-13@2050	7½-9½	9½-12½@16	10B	C	Δ	Δ	¾-¾	7.5*
	.035	.016	73-77	650	24-28@4250	6-8	20@13-15	6B	F	1°40' ± 30'	0°8' ± 30'	0-¾	6½*
	.035	.016	30 ± 2	700	18-22@3600	6-8*	20@13-15*	6B	F	-1½ ± ½	+¼ ± ½	0-¾	4½*
and Custom.....	.035	.020	37-41	850	12-16@4000	4-6	11@11	3B	D	-¼ ± ¼	-¼ ± ¼	¾-¾	8½*
an 400.....	.035	.016	28-35	1000	22@4200	6	22@16½	8B	D	-¼ ± ¼	-¼ ± ¼	¾-¾	8½*
6.....	.035	.016	28-35	1000	20-24@4200	5-7	22@16½	7*	D	-¼ ± ¼	-¼ ± ¼	¾-¾	6½*
uder V-8.....	.035	.017	34	800	34-38@3800	5-7	20@15	11	D	-¼ ± ¼	-¼ ± ¼	¾-¾	6½*
	.033	.017	37-41	800	24@1800	8	14@13	2B	D	+¼ -1½°	0 ± 10	¾-¾	6*
	.033	.016	28-32	800	24@2250	8	16@13	4B	D	+¼ -1½°	0 ± 10	¾-¾	6*
	.034	.015	26-28	400	21.5@4000	1	11-17@12.2	2-12B	D	-¼ -1¼	0 ± 1	¾-¾	6½††

center
cover
damper

Balancer
ale front cover

Continental steering axis inclination
t ¾ deg. camber: caster must agree
¼ deg. for right and left sides; camber
ree within ¼ deg. for right and left
axis inclination specified at 0 deg.

camber
50' camber
ply to cars with manual transmission.
in. is 550.
is 9
1. 21.5-24.5 @ 4000 centr. advance,
17 vacuum advance
usual steering -½ ± ½ deg.
wer steering +¼ ± ½ deg.

▲—Camber Left +½ ± ½ deg.
Right +¼ ± ¼ deg.
⊕—Camber Left +½ ± ½ deg. (Prefer +½)
Right +¼ ± ¼ deg. (Prefer +¼)
*—Lark figure given. Hawk is -1½ to -3 deg. Maxi-
mum variation between wheels should not
exceed ½ deg. on Lark, ¾ deg. on Hawk.
†—Figures given for cars with automatic trans-
missions. Different figures are used with
manual transmission cars.
††—Camber +¼ to -¾ left
+½ to -¾ right
*—670-1130 with auto. trans.
†—16-20@4600 with auto. trans.
†—361 cu. in. figure given
7.5 deg. on 383 cu. in.
⊕—Caster Manual steering -½ ± ½ deg.
Power steering -¾ ± ½ deg.
#—Figure given for Catalina. The Star Chief,
Bonneville & Grand Prix figure is 650
⊕—Figure given for Chevy II 4.
⊕—Figure given for Chevy II 6
Chevy II 6 figure is 8B

▲—Figures given for engines with 8.6-to-1 com-
pression ratio. Engines with higher com-
pression ratio have different data.
▼—At 1 deg. camber
⊕—+½ deg. caster and 0 deg. camber desired. ¾
in. toe-in preferred on V-8
○—Driver's side ¾ deg. more camber
†—With automatic transmission—10
▲—Camber ½ deg. ± ½ deg. left
¾ deg. ± ½ deg. right
90—Figure given is for manual trans. with regular
fuel. Manual trans. premium fuel is 12 deg.
B. Auto. trans. figures are 10 deg. B for
regular, 14 deg. B premium
**—5B for regular fuel, 8B for premium fuel
††—Timing manual trans.—TDC regular fuel, 3B
premium fuel. Timing auto. trans.—5B regu-
lar fuel, 8B premium fuel
◇—Figure given for Catalina. The figure for the
Star Chief, Bonneville and Grand Prix is
20@2850
††—At 10 deg. camber

[MORE SPECIFICATIONS, PAGE 90]

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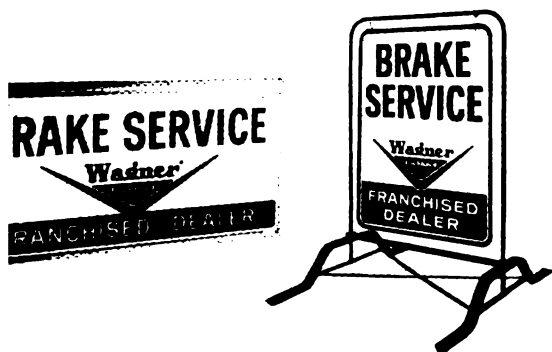
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Mechanical Data on 1962 Cars

ENGINE.. VALVES.. BRAKES.. EXHAUST

continued from page 87

MAKE AND MODEL	ENGINE				VALVES										EXHAUST				
	Firing Order	Idle Speed		Tappet Clearance†		Stem to Guide Clearance‡		Seat Angle		Lift		Timing				Muffler Inlet (In.)	Tailpipe (In.)	Type	Drum Diameter
		Standard Transmission	Automatic Transmission	Intake	Exhaust	Intake	Exhaust	Intake	Exhaust	Intake	Exhaust	Intake		Exhaust					
												Opens Degrees BTC	Closes Degrees ABC	Opens Degrees BBC	Closes Degrees ATC				
Buick Special 4000	165432*	525	525	No	No	1/2-2.5	1-3°	45°45'	385	385	31	84	69	46	1 1/2	1 1/2	S	9 1/2	
Buick Special 4100 & 4300	18436572*	525	525	No	No	1/2-2.5	1-3°	45°45'	383	383	29	71	67	33	1 1/2	1 1/2	S	9 1/2	
Buick LeSabre	12784563	525	525	No	No	1-3 1/2	1-5-3.5°	45°45'	439	441	28	87	76	46	2 1/2	2	S	12	
Buick Invicta, Electra	12784563	525	525	No	No	1-3 1/2	1-5-3.5°	45°45'	439	441	28	87	76	46	2 1/2	2	S	12	
Cadillac	18436572*	No	480	HYD	HYD	5-2.5	1-2.5	44°44'	451	451	39	105	85	59	2 1/2	2 1/2	S	12	
Checker Superba 6 L-Head	153624	375	425	.014	.014	1-2-3.0	3-2-5.0	30°44'	284	284	2	42	42	8	2	1 1/2	S	11	
Checker Superba 6 OHV	153624	375	425	.017	.023	1-2-3.0	3-2-5.0	30°44'	409	409	17	54	62	9	2	1 1/2	S	11	
Chevrolet Corvair	145236	500	500	Zero	Zero	1-2.7	1-5-3.2	45°46'	314	344	43	93	87	69	1 1/2	1 1/2	S	9	
Chevy II (153 cu. in.)	1342			Zero	Zero	1-2.0	1-5-3.2	46°45'	335	335	34	86	68	52	2	1 1/2	S	9	
Chevy II (194 cu. in.)	153624			Zero	Zero	1-2.0	1-5-3.2	45°45'	335	335	34	86	68	52	2	1 1/2	S	9	
Chevrolet 6 235.5 cu. in.	153624	500	475	Zero	Zero	1-2.7	1-2.7	31°46'	328	328	62	94	92	62	2	1 1/2	S	11	
Chevrolet V-8 283 cu. in.	18436572*	475	450	Zero	Zero	1-2.7	1-5-3.2	46°46'	334	334	33	102	50	302	2	1 1/2	D	11	
Chevrolet V-8 327 cu. in.	18436572*	500		Zero	Zero	1-2.7	1-5-3.2	46°46'	398	398	32	87	74	45	2	1 1/2	D	11	
Chevrolet V-8 409 cu. in.	18436572*	700		8	18	1-2.7	2-5-4.2	46°46'	398	398					2	1 1/2	D	11	
Chevrolet Corvette	18436572*	475	450	HYD	HYD	1-2.7	1-5-3.2	46°46'	399	399	35	72	76	71	2	1 1/2	D	11	
Chrysler Newport, 300	18436572*	500	500	HYD	HYD	1-3	2-4	45°45'	390	390	13	59	59	13	2 1/2	2	S	11	
Chrysler New Yorker	18436572*	500	500	HYD	HYD	1-3	2-4	45°45'	390	390	13	59	59	13	2 1/2	2	S	12	
Chrysler 300H	18436572*	500	500	15H	24H	1-3	2-4	45°45'	444	456	22	66	62	26	2 1/2	2	D	12	
Dodge Lancer	153624	550	550	10H	20H	1-3	2-4	45°45'	371	364	8	44	48	TDC	1 1/2	1 1/2	S	9	
Dodge Dart 6	153624	550	550	10H	20H	1-3	2-4	45°45'	371	364	8	44	48	TDC	1 1/2	1 1/2	S	10	
Dodge Dart V-8	18436572*	500	500	10H	18H	1-3	2-4	45°45'	371	364	8	44	48	TDC	1 1/2	1 1/2	S	10	
Dodge Polara	18436572*	500	500	HYD	HYD	1-3	2-4	45°45'	371	364	8	44	48	TDC	1 1/2	1 1/2	S	10	
Ford Falcon	153624	475	450	18H	18H	.0006-.0025	.0018-.0035	45°45'	344	344	15	37	45	7	1 1/2	1 1/2	S	9	
Ford 6 223 cu. in.	153624	450	435	0	0	.0010-.0024	.0028-.0042	45°45'	369	369	23	59	71 1/2	10 1/2	2	2	S	11	
Ford V-8 292 cu. in.	15486372*	450	435	18H	18H	.0010-.0024	.0028-.0042	45°45'	360	360	12	54	58	8	2	2	S	11	
Ford V-8 352 cu. in.	15426378*	450	435	0	0	.0010-.0024	.0028-.0042	45°45'	408	408	22	68	68	22	2	2	S	11	
Ford V-8 390 cu. in.	15426378*	450	435	0	0	.0010-.0024	.0028-.0042	45°45'	408	408	26	64	67	23	2	2	D	11	
Imperial	18436572*	500-525	500	No	No	1-3	2-4	45°45'	390	390	13	59	59	13	2 1/2	2	S	12	
Lincoln Continental																			
Mercury Comet	153624	500-550	475-525	16H	16H	1-2.5	2-3.5	45°45'	344	344	15	37	45	7	1 1/2	1 1/2	S	9	
Mercury Meteor-6																			
Mercury Meteor-V-8																			
Mercury 6																			
Mercury V-8 292 cu. in.																			
Mercury V-8 352, 390 cu. in.																			
Oldsmobile F85	18436572*	550	500	HYD	HYD	1-2.5	1-5-3	45°45'	384	384	22	58	60	20	1 1/2	1 1/2	S	9 1/2	
Oldsmobile	18736542*	550	500	HYD	HYD	1-2.5	1-5-3	45°45'	435	437	11	50	54	16	2 1/2	2 1/2	S	11	
Plymouth Valiant	153624	550	550	10H	20H	1-3	2-4	47°47'	371	364	8	44	48	TDC	1 1/2	1 1/2	S	9	
Plymouth 6	153624	550	550	10H	20H	1-3	2-4	47°47'	375	368	8	44	48	TDC	2	1 1/2	S	11	
Plymouth V-8 318 cu. in.	18436572*	500	500	10H	18H	1-3	2-4	45°45'	400	368	17	47	55	9	2 1/2	2	S	11	
Plymouth V-8 361 & 383 cu. in.	18436572*	500	500	HYD	HYD	1-3	2-4	45°45'	430	430	24	64	64	20	2 1/2	2	D	11	
Pontiac Tempest	1342	680-700	580-600	0	0	2-1-3.8	2-6-4.3	30°45'	330	330	14	58	48	24	1 1/2	1 1/2	S	9	
Pontiac V-8 Std. Trans.	18436572*	480-500	480-500	0	0	2-1-3.8	2-6-4.3	30°45'	330	330	14	58	48	24	2 1/2	2	S	11	
Pontiac V-8 Hydra-Matic	18436572*	No	480-500	0	0	2-1-3.8	2-6-4.3	30°45'	330	330	14	58	48	24	2 1/2	2	S	11	
Rambler Deluxe & Custom	153624	550	500	16C	18C	.0018-.0033	.0018-.0033	45°45'	324	322	10	58	49	19	1 1/2	1 1/2	S	9	
Rambler American 400	153624	550	500	12H	12H	.0015-.0035	.0020-.0040	45°45'	371	367	12 1/2	51 1/2	53 1/2	10 1/2	1 1/2	1 1/2	S	9	
Rambler Classic 6	153624	550	500	HYD	HYD	.0015-.0035	.0020-.0040	45°45'	371	367	12 1/2	51 1/2	53 1/2	10 1/2	2	1 1/2	S	9	
Rambler Ambassador V-8	18436572*	550	475	HYD	HYD	.0015-.0025	.0015-.0025	30°45'	375	375	12 1/2	51 1/2	53 1/2	10 1/2	1 1/2	2	S	10	
Studebaker 6	153624	500	550	24H	24H	1-5-3.5	1-5-3.5	45°45'	375	375	15	50 1/2	55 1/2	10	1 1/2	1 1/2	S	10 1/2	
Studebaker V-8	18436572*	500	550	24H	24H	1-5-3.5	1-5-3.5	45°45'	375	375	11	54 1/2	51 1/2	14	2	1 1/2	S	11	
Thunderbird	15426378*	No	475-500	HYD	HYD	.0010-.0024	.0028-.0042	45°45'	408	408	26	64	67	23	2	2	D	11	

ABC—After bottom center

ATC—After top center

BTC—Before top center

BBC—Before bottom center

HYD—Hydraulic valve lifters

TDC—Top dead center

D—Dual

C—Cold

H—Hot

S—Single

e—Self adjusting

p—Sport Fury has 2 in. muffler inlet, dual exhaust

x—Std. given, Opt. 11

*—Figures given for 4000 and 4100

4300 figures—muffler inlet, 2 in.; Tailpipe

1 1/2 in.

†—Figures given in thousandths of an inch

▲—Left bank odd

●—Right bank odd

□—Right 1-2-3-4, Left 5-6-7-8

◆—No major adjustment required

○—.010 top, .015 bottom

†—390 cu. in. is 575-600

‡—Single on 352 cu. in., dual on 390 cu. in.

▲—Adjust to slight drag. Back off 8 notches.

■—Adjust to heavy drag. Back off 10

front, 12 notches rear.

*—Adjust to slight drag. Back off 7

▲—Intake 45-45 1/2, exhaust 45-45 1/2

†—Top clearance given

‡—Rear drum 1 in. smaller

§—45 1/2-45 1/2

†—Adjust to heavy drag. Back off 12

on front brakes, 16 notches rear

⊕—Series 1300—manual transmission

clearance is—intake 6H, exhaust

4—Dual on Hawk

§—Top clearance given. Bottom is 2-

[MORE SPECIFICATIONS, PA

WAGNER® LOCKHEED®... NUMBER ONE IN O.E.M. QUALITY FOR 37 YEARS

Wagner
Lockheed

BRAKE PARTS

**reduce
"comebacks"**



***O.E.M. proved
and pre-tested...
you know they'll
fit right...
work right!***

THESE PARTS WORK RIGHT because Wagner Lockheed Brake Parts for service needs are made to the same specifications as those used for OEM. They have been thoroughly researched and tested, not only by Wagner, but by car, truck and bus manufacturers. They are pre-tested in actual use on millions of vehicles before they become available for service requirements.

The Wagner Lockheed line is the most complete line of hydraulic brake parts on the market. It includes master and wheel cylinders, repair kits, pistons, springs, washers, cups, hose, brake cable and all related items for every make and model vehicle.

For details on this line of O.E.M. (Original Equipment Manufacturer) Quality—ask your Wagner Distributor... or write us for Catalog AU-500.

Wagner Electric Corporation

6452 PLYMOUTH AVENUE, ST. LOUIS 33, MO., U.S.A.

Manufacturers of LOCKHEED® Products

WAG-112

Engine Details on 1962 Cars

LUBRICATION..PISTONS..BEARINGS..RODS..CAMS

continued from page 90

ENGINE MAKE AND MODEL	PISTONS										CONNECTING RODS				MAIN BEAR- INGS	CAMSHAFT			ENGINE LUBRICATION		
	Material	Features*	Weight Ounces	Piston Ring		Wrist Pins	Diameter	Locking Method	Rods		Rod Bearings	Vibration Damper	Which Take Thrust	Chain or Gear Drive		Camshaft Gear	No. of Bearings	Lubrication Type	Normal Oil Pressure at RPM	Crankcase Oil	
				Oil	Comp				Length Center to Center	Weight Ounces	Material										Over All Length
				No. Used	Width	No. Used																Width
Buick Special.....	AlAl	TSD	13.81	1	3/4	2	.874	PrF	5.66	17.55	Std	.737	Ra	Std	3	Chn	CIron	5	P	33@2400	4
Buick LeSabre.....	AlAl		13.81	1	3/4	2	.999	PrF	6.22	23.20	StAl	.820	Ra	StAl	3	Chn	CIron	5	P		
Buick Invicta, Electra.....	AlAl		13.81	1	3/4	2	.999	PrF	6.22	24.38	StAl	.820	Ra	StAl	3	Chn	CIron	5	P		
Cadillac.....	AlAl	DT	22.56	1	3/4	2	1.000	LIR	6.50	22.56	M	.755	Ra	M	5	Chn	SIr	5	P	20@175	4
Checker Superba.....	AlAl	FH	16.44	1	3/4	4	.859	Flot	7.00	32.24	Std	.725	RT	StBB	1	Chn	CIron	4	P	20@375	5
Chevrolet 6.....	AlAl	CE	18.88	1	3/4	2	.866	LIR	6.81	28.03	StBB	1.008	RI	StBB	3	Gr	BFr	4	P	35@2000	5
Chevrolet V-8 283 cu. in.....	AlAl	SIA	20.41	1	3/4	2	.799	LIR	5.69	19.02	StBB	.807	No	StBB	5	Chn	CIron	5	P	45@2000	4
Chevrolet V-8 327 cu. in.....	AlAl	SIA	20.41	1	3/4	2	.927	LIR	5.70	19.02	StBB	.807	No	StBB	5	Chn	CIron	5	P	45@2000	4
Chevrolet V-8 348 cu. in.....	AlAl	SIA	20.41	1	3/4	2	.990	LIR	6.00	No	StBB	.857	RI	StAl	5	Chn	CIron	5	P	45@2000	4
Chevrolet Corvette.....	AlAl	SIA	20.41	1	3/4	2	.927	LIR	5.70	No	StAl	.817	RI	StAl	5	Chn	CIron	5	P	45@2000	4
Chevy II 4 and 6.....	AlAl	FH	16.44	1	3/4	2	.927	LIR	5.70	No	StBB	.807	No	StBB	5	Chn	CIron	5	P	45@2000	4
Chrysler Newport, 300.....	AlAl	StE	25.63	2	.078	1	1.094	PrF	6.36	28.6	StBB	.927	Rd	StBB	3	Chn	CIron	5	P	55@2000	5
Chrysler New Yorker.....	AlAl	StE	27.50	2	.078	1	1.094	PrF	6.36	29.8	StBB	.927	Rd	StBB	3	Chn	CIron	5	P	55@2000	5
Corvair.....	AlAl	SIA	14.61	1	3/4	2	.799	LIR	4.71	13.7	StBB	.649	No	StBB	1	Gr	CIAl	4	P	45@2000	4
Dodge Lancer.....	AlAl	StE	16.40	1	3/4	2	.900	PrF	5.70	25.70	StBB	.98	Rd	StBB	3	Chn	CIron	4	P	65@20	4
Dodge Dart 6.....	AlAl	StE	16.40	1	3/4	2	.900	PrF	5.70	27.30	StBB	.99	Rd	StBB	3	Chn	CIron	4	P	65@20	4
Dodge Dart V-8.....	AlAl	StH	20.90	1	3/4	2	.900	PrF	6.12	25.60	BiMG	.893	No	StBB	3	Chn	CIron	5	P	65@20	4
Dodge Polara.....	AlAl	StE	25.30	1	3/4	2	.900	PrF	6.36	28.60	StBB	.927	Rd	StBB	3	Chn	CIron	5	P	65@20	4
Ford Falcon.....	AlAl	ASP	17.56	1	3/4	2	.912	PrF	4.85	18.53	Std	.770	Ru	StBB	3	Chn	CIron	4	P	50@2000	5
Ford Galaxie 6 cyl.....	AlAl	ASP	19.25	1	3/4	2	.912	Flot	6.25	27.82	SA	.835	Ru	StBB	3	Chn	CIron	4	P	52@2000	4
Ford V-8 292 cu. in.....	AlAl	ASP	19.57	1	3/4	2	.912	Flot	6.32	23.84	SA	.736	Ru	StBB	3	Chn	CIron	5	P	45@2000	5
Ford V-8 352, 390 cu. in.....	AlAl	SAS	24.58	1	3/4	2	.975	Flot	6.53	25.64	SA	.736	Ru	SA	3	Chn	CIron	5	P	52@2000	5
Imperial.....	AlAl	StE	27 1/2	1	3/4	2	1.094	PrF	6.97	29.80	StBB	.927	Rd	StBB	3	Chn	CIron	5	P	55@20	5
Lincoln Continental.....	AlAl	SC	29.80	1	3/4	2	.975	PrF	6.60	27.80	SA	.861	Ru	SA	3	Chn	AL-NW	5	P	52@20	5
Mercury Meteor 6.....	AlAl	ASP	19.17	1	3/4	2	.912	Flot	6.25	29.63	StBB	1.029	Ru	StBB	3	Chn	CIron	4	P	50@20	4
Mercury Meteor-8.....	AlAl	ASP	19.47	1	3/4	2	.912	Flot	6.32	24.05	SA	.741	Ru	StBB	3	Chn	CIron	5	P	50@20	5
Mercury V-8 292 cu. in.....	AlAl	ASP	19.47	1	3/4	2	.912	Flot	6.32	24.05	SA	.741	Ru	StBB	3	Chn	CIron	5	P	50@20	5
Mercury V-8 352 cu. in.....	AlAl	ASP	24.58	1	3/4	2	.975	Flot	6.53	25.75	SA	.741	Ru	SA	3	Chn	CIron	5	P	50@20	5
Mercury V-8 390 cu. in.....	AlAl	SIC	24.41	1	3/4	2	.975	Flot	6.48	25.25	SA	.741	Ru	SA	3	Chn	CIron	5	P	50@20	5
Oldsmobile F85.....	AlAl	CG	14.78	1	00	2	.875	PrF	5.66	17.89	Std	.735	Ra	Std	3	Chn	CIron	5	P	30@24	4
Oldsmobile.....	AlAl	AS	26.35	1	3/4	2	.980	Flot	7.00	34.55	StAl	.826	Ra	StAl	5	Chn	CIron	5	P	40@44	4
Plymouth Valiant.....	AlAl	StE	16 1/2	1	3/4	2	.900	PrF	5.70	25.7	StBB	.99	Rd	StBB	3	Chn	CIron	4	P	60@20	4
Plymouth 6.....	AlAl	StE	16 1/2	1	3/4	2	.900	PrF	5.70	27.3	StBB	.99	Rd	StBB	3	Chn	CIron	4	P	60@20	4
Plymouth V-8, 318 cu. in.....	AlAl	StE	No	1	3/4	2	.900	PrF	6.12	25.6	BiMG	.843	Rd	StBB	3	Chn	CIron	5	P	55@20	4
Plymouth V-8, 361 cu. in.....	AlAl	StE	No	1	3/4	2	.900	PrF	6.36	28.6	StBB	.927	Rd	StBB	3	Chn	CIron	5	P	55@20	4
Pontiac Tempest.....	AlAl	StE	23.87	1	3/4	2	.980	LIR	6.62	29.34	Std	.82	Ru	Std	4	Chn	Allron	5	P	35@26	4
Pontiac.....	AlAl	StE	23.87	1	3/4	2	.980	LIR	6.62	29.34	Std	.880	Ru	Std	4	Chn	Allron	5	P	35@26	4
Rambler American.....	AlAl	SS	14.00	1	1/2	2	.860	PrF	6.62	23.00	StBB	.960	RF	StBB	1	Chn	CIron	4	P	55@30	4
Rambler Classic 6.....	AlAl	SS	14.70	1	1/2	2	.860	PrF	6.62	23.00	StBB	.960	RF	StBB	1	Chn	CIron	4	P	55@30	4
Rambler Ambassador V8.....	AlAl	SAS	23.45	1	1/2	2	.931	PrF	6.38	27.60	SA	.867	RF	StBB	1	Chn	CIron	5	P	55@30	4
Studebaker 6.....	AlAl	T	10.60	1	3/4	2	.750	LIR	6.38	19.04	StAl	.905	Ri	StBB	1	Gr	CIron	4	P	60@20	4
Studebaker V-8.....	AlAl	T	16.21	1	3/4	2	.875	LIR	6.63	23.71	StAl	.843	Ru	StBB	1	Gr	CIron	5	P	60@20	5
Thunderbird.....	AlAl	SIC	24.41	1	3/4	2	.975	Flot	6.48	25.25	SA	.735	Ru	SA	3	Chn	CIron	5	P	57@2000	5

AlAl—Aluminum alloy
Allron—Alloy Iron
AL-NW—Aluminum die cast body
with Nylon teeth
AS—Autothermic, steel strut
ASP—Autothermic, solid skirt, tin
plated
BFR—Bakelite and fabric with steel hub
BiMG—Bi-metal grid
CE—Controlled expansion
CG—Cam ground all aluminum tin
plated
Chn—Chain
CIAl—Cast aluminum
CIr—Cast Iron
DT—Double T-slot, contoured top,
Stannate coated
FF—Integral full-flow oil filter
FH—Flat head, cam ground T-slot
anodized
Flot—Floating

Gr—Gear
LIR—Locked in rod
M—Moraine 400-removable
P—Pressure
PF—Partial flow oil filter
PR—Peak roof, autothermic, slipper
skirt
PrF—Press fit in rod
Ra—Rubber absorption
Rd—Non-adhesion, rubber-dynamic
RF—Rubber and Friction
Ri—Rubber mounted disc
RI—Inertia, rubber mounted
Ru—Rubber floated
RT—Bonded rubber torsional vibra-
tion damper
SA—Copper lead alloy steel backed
SAS—Slipper skirt, tin-plated, auto-
thermic
SC—"Conformatic" slipper skirt, tin
plated

SIA—Slipper skirt, autothermic, ma-
chined reliefs for valve clearance
SIC—Closed-slipper skirt, autothermic,
tin plated
Sh—Shunt
SIr—Sintered Iron
SS—Solid skirt, tin plated "Conform-
atic"
StAl—Steel-backed aluminum
StBB—Steel-backed babbitt
StE—Slipper type, thermally controlled
by steel struts, elliptically turned,
tin plated
StH—Thermally controlled by steel
band, horizontal slot, elliptically
turned, tin plated
StdD—Steel back-Durex 100
ST—Steel band, slipper type, tin
plated, autothermic
T—T-slot, tin plated
TSD—Transverse slot, divorced skirt

o—No. 2 is 1/4 in.
w—Width of second compression
is 1/4
*—All pistons are cam-ground
head types unless otherwise
*—Width of second compression
is 1/4 in.
†—Thrust bearings are tin base
†—Montclair figure given, Par
is 29.80
#—Steel-backed aluminum is
half of No. 4
†—Pressure at 30 MPH
†—Minimum pressure
†—Width .0245 each rail, plus
o—At the rear end of engine
†—390 cu. in. V8 is 6.49
†—At 50 mph
†—Rails .0235—.0252 each;
Spacer .1715—.1815
*—Not available with auto. tra
*—Rails .0235—.0250. Spacer .1715

[MORE SPECIFICATIONS ON PAGE 91]

WAGNER® LOCKHEED®... NUMBER ONE IN O.E.M. QUALITY FOR 37 YEARS

Wagner
Lockheed

BRAKE FLUID
THE QUALITY LINE
has special **T.R.I.***...



*Protect your
customers with
the best and
safest brake fluid
on the market.*

***TEMPERATURE
RESISTANT
INGREDIENTS**

for proper functioning
under all operating
temperatures covering
a range from high-heat
to sub-zero.

UNSURPASSED FOR QUALITY... used by car and truck manufacturers (O.E.M.) for original equipment needs... there's none safer. **FIRST** in POPULARITY... **FIRST** in SALES in the brake service field—Wagner Lockheed Brake Fluid IS, and has been the No. 1 brand for 37 years... Surpasses S.A.E. specifications, meets State laws, and conforms to Federal specifications.

For details on this line of O.E.M. (Original Equipment Manufacturer) Quality—ask your Wagner Distributor... or write us for Bulletin HU-411.

Wagner Electric Corporation

6452 PLYMOUTH AVENUE, ST. LOUIS 33, MO., U.S.A.

Manufacturers of LOCKHEED® Products

WAG-103

Fuel System, Drive Line Data

FUEL..CLUTCH..TRANSMISSION..UNIVERSAL, FACTS ON 1962 CARS

continued from page 92

MAKE AND MODEL	Gas Tank Capacity Gallons	FUEL								CLUTCH			TRANSMISSION										UNI-VERSALS			
		Carburetor Make				Manifold Heat	Fuel Pump Pressure	Air-Cleaner Type	Exhaust Muffler Type	Make	Facing Di- ameter		Overdrive Ratio	Conventional					AUTO- MATIC					Make	No. Used	Type Drive
		Stand. Trans.		Auto. Trans.							Inside	Outside		Third	Second	Low	Oil Capacity Pints	Oil Cap. with overdrive Pints	Downshift Max. Mph	Water or Air Cooled						
		Make	No. Used	Make	No. Used																					
Buick Special.....	16	Ro	1-2	Ro	1-2	W	Poly	RF	Dry	6	9½	No	1.00	1.55	2.57	2¼	No	52	No	A	W	Sag-Spi	4	TA	
Buick LeSabre.....	No	1-2	No	1-2	Ex	Poly	RF	No	No	No	No	No	No	No	No	No	A	W	Sag-Spi	4	TA	
Buick Invicta, Electra.....	No	1-4	No	1-4	Ex	Poly	RF	No	No	No	No	No	No	No	No	No	A	W	Sag-Spi	4	TA	
Cadillac.....	260	No	No	Ro-Ca	1-4	Ex	5¼-6½	Dry	RFR	No	No	No	No	No	No	No	No	No	76	W	DS	.....	3	TA	
Checker Superba.....	22	CF	1-1	CF	1-1	W	3	Dry	RF	B&B	6½	10	No	1.00	1.55	2.57	2½	No	56	A&W	Spi	.....	3	HK	
Corvair.....	14	Ro	2-1	Ro	2-1	Ex	5¼-6½	Poly	RF	Own	6½	8½	No	1.00	1.99	3.50	2½	No	40	A	No	.....	No	TA	
Chevy II 4 and 6.....	16	Ro	1-1	Ro	1-1	Ex	.....	Oil	RF	Own	6½	8½	No	1:1	1.68:1	2.94:1	2	No	40	A	Own	.....	2	TY
Chevrolet 6.....	20½	Ro	1-1	Ro	1-1	Ex	3½-4½	Oil	RF	Own	6	9½	70	1.00	1.68	2.94	2	3	40	W	Own	.....	3	TA	
Chevrolet V-8 283 cu. in.....	20½	Ro	1-2	Ro	1-2	Ex	5¼-6½	Dry	RF	SP	10	10½	70:1	1.00	1.68	2.94	2	1	50	W	Own	.....	3	TA	
Chevrolet V-8 327 cu. in.....	20½	Ca	1-4	Ca	1-4	Ex	5¼-6½	Dry	RF	Own	6½	10½	.....	1.00	1.53	2.47	2	2	No	W	Own	.....	3	TA
Chevrolet V-8 409 cu. in.....	20½	Ca	1-4	Ca	1-4	Ex	9½-10½	Dry	RF	Own	6½	10½	.....	1.00	1.53	2.47	2	2	No	W	Own	.....	3	TA
Chevrolet Corvette.....	16½	Ca	1-4	Ca	1-4	Ex	5¼-6½	Poly	RF	B&B	6½	10	No	1.00	1.53	2.47	2	No	No	A	Own	.....	3	HK	
Chrysler Newport, 300.....	23½	*	1-2	*	1-2	Ex	4-5½	Dry	RF	B&B	6½	10½	No	1.00	.....	1.46	2.55	4½	70	W	DT	.....	2	HK
Chrysler 300 H.....	23½	No	No	Ca	2-4	Ex	4-5½	Dry	RF	B&B	6½	11	No	1.00	.....	1.49	4½	70	W	DT	.....	2	HK	
Chrysler New Yorker.....	23	No	No	Ca	1-4	Ex	4-5½	Dry	RF	No	6½	.....	No	No	No	No	2.55	No	70	W	DT	.....	2	HK
Dodge Lancer.....	14	BB	1-1	BB	1-1	Ex	4-5½	Dry	RF	B&B	6 3/8	9 3/8	No	1.00	1.83	2.95	5	No	55	W	Own	.....	2	HK	
Dodge Dart 6.....	20	BB	1-1	BB	1-1	Ex	4-5½	Dry	RF	B&B	6	9½	No	1.00	1.83	2.95	4½	No	50	W	Own	.....	2	HK	
Dodge Dart V-8.....	20	BB	1-2	BB	1-2	Ex	6-7½	Dry	RF	B&B	6½	10	No	1.00	1.43	2.55	4½	No	70	W	Own	.....	2	HK	
Dodge Polara V-8.....	20	BB	1-2	BB	1-2	Ex	4-5½	Dry	RF	B&B	6½	10½	No	1.00	1.49	2.55	4½	No	80	W	Own	.....	2	HK	
Ford Falcon.....	14	Ho	1-1	Ho	1-1	No	4-5	Dry	RF	Long	5½	8½	No	1.00	1.83	3.29	2½	No	50	A	D	.....	2	HK	
Ford Galaxie 6.....	20	Ho	1-1	Ho	1-1	Ex	3½-5½	Dry	RF	Long	6	9½	72	1.00	1.86	3.20	3	4½	47	W	F	.....	2	HK	
Ford Galaxie V-8 292 cu. in.....	20	Fo	1-2	Fo	1-2	Ex	3½-5½	Dry	RF	Long	6½	10	70	1.00	1.61	2.78	3	4½	58	W	F	.....	2	HK	
Ford Galaxie V-8 352 cu. in.....	20	Fo	1-2	Fo	1-2	Ex	4½-5½	Dry	RF	Long	7	11	72	1.00	1.51	2.37	3½	5	56	W	F	.....	2	HK	
Ford Galaxie V-8 390 cu. in.....	20	Fo	1-4	Fo	1-4	ExW	4½-5½	Dry	RF	Long	7	11	72	1.41½	1.78	2.36	3	4½	56	W	Cle	.....	2	HK	
Imperial.....	23	No	No	Ca	1-4	Ex	4-5½	Dry	RF	No	No	No	No	No	No	No	No	No	75	W	DT	.....	3	HK	
Lincoln Continental.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mercury Comet.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mercury Meteor 6.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mercury Meteor V-8.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mercury 6.....	20	Ho	1-1	Ho	1-1	Ex	4-5	Dry	RF	Long	6	9½	70	1.00	1.86	3.20	3	4½	47	W	Fo	.....	2	HK	
Mercury V-8, 292 cu. in.....	20	Fo	1-2	Fo	1-2	Ex	4½-5½	Dry	RF	Long	6½	10	70	1.00	1.61	2.78	3	4½	54	W	Fo	.....	2	HK	
Mercury V-8, 352, 390 cu. in.....	20	Fo	1-2½	Fo	1-2½	Ex	4½-5½	Dry	RF	Long	7	11	No	1.00	1.51	2.37	3½	4½	53	W	Cle	.....	2	HK	
Oldsmobile F85.....	16	Ro	1-2	Ro	1-2	W	4-5½	Dry	RF	Long	6	9½	No	1.00	1.55	2.57	2¾	.....	24	W	Sag-Spi	.....	2	TA
Oldsmobile 88.....	20	Ro	1-2	Ro	1-2	Ex	5-6	Dry	RF	Long	7	11	No	1.00	1.37	2.15	2½	.....	68	W	Sag-Spi	.....	2	TA
Oldsmobile 98.....	20	Ro	1-4	Ro	1-4	Ex	5-6	Dry	RF	No	No	No	No	No	No	.....	.....	.....	68	W	Sag-Spi	.....	2	TA
Plymouth Valiant.....	14	B&B	1-1	B&B	1-1	Ex	4-5½	Dry	RF	B&B	6 3/8	9 3/8	No	1.00	1.83	2.95	5	No	55	W	Own	.....	2	HK	
Plymouth 6.....	20½	BB	1-1	BB	1-1	Ex	4½	Dry	RF	B&B	6	9½	No	1.00	1.83	2.95	5	No	55	W	Own	.....	2	HK	
Plymouth V8, 318 cu. in.....	20½	BB	1-2	BB	1-2	Ex	6½	Dry	RF	B&B	6½	10	No	1.00	1.99	2.55	4½	No	70	W	Own	.....	2	HK	
Plymouth V8, 361 cu. in.....	20½	Ca	1-4	Ca	1-4	Ex	4½	Dry	RF	B&B	6½	10½	No	1.00	1.49	2.55	4½	No	65	W	Own	.....	2	HK	
Pontiac Tempest.....	16	Ro	1-1	Ro	1-1	Ex	4-5½	Oil	RF	B&B	6	9½	No	1.00	1.68	2.94	.....	.....	45	A	No	.....	No	TT
Pontiac.....	25	Ro	1-2½	Ro	1-2	Ex	5¼-6½	Oil	RF	B&B	6½	10½	No	1.00	1.53	2.47	.....	.....	70	W	Sag	.....	2	TA
Rambler Deluxe and Custom.....	20	Ca	1-1	Ca	1-1	W	4-5½	Dry	RF	B&B	5½	8	70	1.00	1.63	2.61	1½	2½	69	A	Mech	.....	2	HK	
Rambler American 400.....	20	Ho	1-1	Ho	1-1	W	4-5½	Oil	RF	B&B	5½	8½	70	1.00	1.63	2.61	1½	2½	69	A	Mech	.....	2	HK	
Rambler Classic 6.....	20	Ho	1-1	Ca	1-1	W	4-5½	Dry	RF	B&B	5½	8½	70	1.00	1.63	2.61	1½	2½	69	A	Mech	.....	1	TT	
Rambler Classic V-8.....	20	Ho	1-2	Ho	1-2	Ex	4-5½	Dry	RF	B&B	7	10	70	1.00	1.55	2.57	2½	3½	68	W	Mech	.....	1	TT	
Rambler Ambassador V-8.....	20	Ho	1-2	Ho	1-2	Ex	4-5½	Dry	RF	B&B	6½	10½	72	1.00	1.59	2.49	4	4	68	W	Mech	.....	1	TT	
Studebaker 6.....	18	Ca	1-1	Ca	1-1	Ex	3½-5½	Dry	RF	B&B	5½	8½	70	1.00	1.63	2.60	2¾	3¾	55	A	Spi	.....	2	HK	
Studebaker V-8.....	18	St	1-2	St	1-2	Ex	3½-5½	Dry	RF	B&B	6½	10½	70	1.00	1.55	2.57	3¾	4¾	70	A	Spi	.....	2	HK	
Thunderbird.....	20	No	No	Fo	1-4	Ex	4½-5½	Dry	RF	No	No	No	No	No	No	No	No	No	69	W	Spi	.....	2	HK	

A—Air
BB—Ball & Ball
B&B—Borg & Beck
Ca—Carter
Cle—Cleveland
Da—Dana
DT—Detroit
DS—Dana-Saginaw
0—Short decks (Town Sedan, Park Ave.)
21 gal.
†—Figure is for Chevy II 4.
Chevy II 6 figure is 9 1/2

Ex—Exhaust
Fo—Ford
Ho—Holley
HK—Hotchkiss
Mech—Mechanics
MM—Mechanical 1.75C modified
Poly—Polyurethane element
RF—Reverse flow
*—Newport-Bendix 300—Ball & Ball
□—Figure is for Chevy II 4
Chevy II 6 figure is 6 1/2

SP—Single plate
Ro—Rochester
RFR—Reverse flow with separate resonator
Sag—Saginaw
Spi—Spicer
St—Stromberg
TA—Trailing arms
TT—Torque tube
W—Water
YS—Yoke & Spider (Trunnion)
YY—Yoke & Yoke (Trunnion)

▲—Station Wagons 19 gal.
†—Station Wagons 21 gal.
▲—Lark V8 figure given
Hawk is 10 1/2 in.
▲—Bonneville Models have 4 BBL carburetors.
†—390 cu. in. uses 4 BBL.
▲—Figure is for Valiant. Capacity for the Plymouth 6 is 4 1/2.
▲—Figure is for Valiant.
Figure for the Plymouth 6 is 80.
†—4th speed—1.00:1 ratio

[MORE SPECIFICATIONS, PAGE 96]

WAGNER® LOCKHEED®... NUMBER ONE IN O.E.M. QUALITY FOR 37 YEARS



LINED BRAKE SHOES

are contour ground
...easy to install



*Lined Shoes
save you time...
let you do
more jobs per day.*

As manufacturer of Lockheed Hydraulic Brakes, Air Brakes, and Liquid Cooled Disc Brakes made for O.E.M. (Original Equipment Manufacturer)—Wagner knows brakes. That's why Wagner lined brake shoe sets are contour-ground to save you time—compensate for normal drum distortion. HOW-TO-DO-IT installation instructions are included in each box. Lining also available in rolls, sets, blocks and slabs.

For details on this line of O.E.M. (Original Equipment Manufacturer) Quality—ask your Wagner Distributor...or write us for Catalog BU-579.

Wagner Electric Corporation

6452 PLYMOUTH AVENUE, ST. LOUIS 33, MO., U.S.A.

Manufacturers of LOCKHEED® Products

Chassis Details on 1962 Cars

REAR AXLE..SUSPENSION..STEERING..BRAKES

continued from page 94

MAKE AND MODEL	Shipping Weight 4-Door Sedan	CHASSIS			REAR AXLE		SUS- PENSION			STEERING										BRAKES			
		Wheelbase	Tread		Gear- ing No. of Teeth Std. Trans.	Road Clearance At Rear Axle	Type			Manual Gear		Power Unit Make and Type	Ratio—Mechanical	Ratio—Power	Turns of Wheel for Full Swing (Mechanical)	Turns of Wheel for Full Swing (Power)	Car Turning Diame- ter—Wall to Wall ft.	Minimum Road Clearance	Drum Diameter	Lin- ing		Effective Braking Area sq. in.	
			Front	Rear			Front Spring	Rear Spring	Shackles	Type	Make												
																				Ring Gear	Pinion		
Buick Special.....	112	56	56	37	11	CO	CO	No	RB	SAG	SAG	22	17½	5	4	38½	.....	12	2½	1½	123.7		
Buick Le Sabre.....	123	62	61	.....	.....	CO	CO	No	RB	SAG	SAG	28	17½	5	3½	48½	.....	12	2½	1½	156.8		
Buick Invicta.....	123	62	61	.....	.....	CO	CO	No	RB	SAG	SAG	28	17½	5	3½	48½	.....	12	2½	1½	156.8		
Buick Electra.....	126	62	61	.....	.....	CO	CO	No	No	No	SAG	SAG	No	17½	No	3½	50½	.....	12	2½	1½	156.8	
Cadillac 60, 62.....	4710a	129½	61	61	47	16	8½	CO	CO	No	No	SI	No	17½	No	3½	45½	5½	12	2½	1½	203.7	
Cadillac 75.....	5390	149½	61	61	47	14	8½	CO	CO	No	No	SI	No	17½	No	3½	51½	6½	12	2½	1½	207.5	
Checker Superba.....	3320	120	60	62½	41	11	7½	CO	SE	CL	WG	GEM	HG	22½	18½	4½	42½	6½	11	2½	1½	191.8	
Chevrolet Corvair.....	2370	108	54½	54½	36	11	6	CO	CO	No	RB	SAG	No	23½	No	5	No	41½	6	9	1½	126.1	
Chevy II 4 and 6.....	2635	110	56½	56½	.....	.....	.....	CO	SE	CL	RB	SAG	SL	20	20	4½	4½	46½	6	9	2½	144.9	
Chevrolet 6, V-8.....	3450d	119	60½	59½	37	11	7½	CO	CO	No	RB	SAG	SL	24	20	5½	5½	43½	6½	11	2½	185.6	
Chevrolet Corvette.....	2905	102	57	59	37	11	8	CO	SE	TL	WR	SAG	No	16	No	3½	39*	6½	11	2*	1½	157.0	
Chrysler Newport.....	3720	122	60½	59½	42	13	7½	TB	SE	CL	WR	Own	CI	20½	15½	5½	3½	46½	5½	11	2½	1½	230.0
Chrysler 300.....	3810	122	60½	59½	42	13	7½	TB	SE	CL	WR	Own	CI	20½	15½	5½	3½	46½	5½	11	2½	1½	230.0
Chrysler New Yorker.....	3950	126	60½	59½	No	8	7½	TB	SE	CL	WR	Own	CI	20½	15½	5½	3½	49½	5½	12	2½	1½	251.0
Chrysler 300H.....	4010	122	61½	60	46	13	.....	TB	SE	CL	WR	Own	CI	20½	15½	5½	3½	46½	5½	12	2½	1½	251.0
Dodge Lancer.....	2535	106½	55½	53½	47	17	5½	TB	SE	CL	WR	Own	CI	24	15½	5½	3½	39½	5½	9	2½	1½	153½
Dodge Dart 6.....	3010	116	59½	57½	42	13	5½	TB	SE	CL	WR	Own	CI	24	15½	5½	3½	43½	5½	10	2½	1½	195½
Dodge Dart V-8.....	3155	116	59½	57½	43	13	5	TB	SE	CL	WR	Own	CI	24	15½	5½	3½	43½	5	10	2½	1½	195½
Dodge Polara.....	3300	116	59½	57½	37	11	4½	TB	SE	CL	WR	Own	CI	24	15½	5½	3½	43½	4½	10	2½	1½	195½
Ford Falcon.....	2299	109½	55	54½	.....	.....	6½	CO	SE	CL	RB	Fo	No	27.1	No	4	64	40.8	7.4	9	2½	1½	114.3
Ford Galaxie 6 and V-8.....	3684	119	61	60	.....	.....	6½	CO	SE	TL	RB	Fo	No	30	23	5.5	3.9	43.6	7.6	11	2½	1½	180
Imperial.....	4665G	129	61½	62½	41	14	8½	TB	SE	CL	No	No	CI	No	15½	No	3½	52½	5½	12	2½	1½	251
Lincoln Continental.....	5132	123	62½	61	No	No	7½	CO	SE	CL	No	No	FI	No	17	No	3½	47½	5½	11	3	1½	227
Mercury Comet.....	2401	114	55	54½	NS	NS	6½	CO	SE	CL	RB	Fo	No	19.88	No	4½	No	42.40	5½	9	1½	1½	114.3
Mercury Meteor 6 and 8.....	2990**	116½	57	56	.....	.....	.....	CO	SE	CL	RB	Fo	BL	22	20	5½	3½	44½	5½	11	2½	1½	180
Mercury 6.....	3614	120	61	60	.....	.....	7½	CO	SE	CL	RB	Fo	BL	22	20	5½	3½	44½	5½	11	2½	1½	180
Mercury V-8, 292 cu. in.....	3714	120	61	60	.....	.....	7½	CO	SE	CL	RB	Fo	BL	22	20	5½	3½	44½	5½	11	2½	1½	180
Mercury V-8, 352, 390 cu. in.....	3767**	120	61	60	.....	.....	7½	CO	SE	CL	RB	Fo	BL	22	20	5½	3½	44½	5½	11	2½	1½	180
Oldsmobile F85.....	2598	112	56	56	40	13	6½	CO	CO	No	RB	SAG	SI	22	17½	5½	4½	39½	4½	9½	2*	1½	127
Oldsmobile 88.....	4031	123	61	61	NS	NS	6½	CO	CO	No	RB	SAG	SI	24	17½	6½	3½	46	5½	11	2½	1½	156.8
Oldsmobile Super 88.....	4031	123	61	61	NS	NS	6½	CO	CO	No	RB	SAG	SI	24	17½	6½	3½	46	5½	11	2½	1½	156.8
Oldsmobile 98.....	4261	126	61	61	No	No	6½	CO	CO	No	RB	No	SI	No	17½	No	3½	47	5½	11	2½	1½	156.8
Plymouth Valiant.....	2500	106½	55½	55½	47	17	6½	TB	SE	CL	WR	Own	CI	15½	15½	5½	3½	39½	5½	9	2½	1½	153½
Plymouth.....	3000J	116	59½	57½	47	17	6½	TB	SE	CL	WR	Own	CI	24	15½	5½	3½	43½	4½	11	No	No	195.2
Pontiac Tempest.....	2816	112	56½	56½	39	11	6	CO	CO	No	RB	SAG	SL	24.1	24½	2½	4½	40½	6	9	1½	1½	108.9
Pontiac.....	3749	120F	62½	62½	42	13x	6½	CO	CO	No	RB	SAG	SAG	24.1	17½	5½	4½	46½	6	11	2½	1½	173.7
Rambler American.....	2500	100	54½	55	43	13	7½	CO	SE	TL	WR	GEM	GEM	22½	22½	5½	4½	37	8½	9	2	1½	130½
Rambler 400.....	2585	100	54½	55	43	15*	7½	CO	SE	TL	WR	GEM	GEM	22½	22½	5½	4½	37	8½	9	2	1½	130.5
Rambler Classic 6.....	2940	108	58½	58	34	9	7½	CO	CO	.....	RB	SAG	MON	24	20	6	5	39½	8½	9	2½	1½	153
Rambler Ambassador V-8.....	3257	108	58½	59½	39	11	7½	CO	CO	.....	RB	SAG	MON	24	20	6	5	39½	8½	10	2½	1½	169
Studebaker Lark 6.....	2760	113	57½	56½	.....	.....	7½	CO	SE	CL	RB	SAG	BL	20	20	4½	4½	40	6½	10*	2	1½	146.4
Studebaker Lark V-8.....	3015	113	57½	56½	.....	.....	8	CO	SE	CL	RB	SAG	BL	20	20	4½	4½	40	6½	11*	2½	1½	172.8
Studebaker Hawk V-8.....	3230	120½	57½	56½	43	14	8½	CO	SE	CL	CS	R	BL	20	20	4½	4½	45½	6½	11*	2½	1½	172.8
Thunderbird.....	4132	113	61	60	No	No	7½	CO	SE	TL	No	No	Fo	No	20.3	No	3.6	43	6½	11	3	1½	198

a—Weight for 60 given, 62 is 4660
BL—Bendix linkage
CI—Chrysler integral
CL—Compression link
CO—Coil
d—Weight for 6 cyl. given, V-8 is 3455
F—Catalina, Ventura figure given, Star Chief and Bonneville wheelbase is 123 in.
FI—Ford integral
FL—Ford linkage
Fo—Ford
GEM—Gemmer
G—Weight given is for 293 cu. in. engine. Subtract 98 lb. for 223 cu. in. engine
HG—Hydraulic-Gemmer

J—Savoy 6 cyl. given, Belvedere is 3010, Fury 3025, Savoy 8 cyl. is 3140, Belvedere 3150, Fury 3180
MON—Monroe
R—Ross
RB—Recirculating ball
SAG—Saginaw
SE—Semielliptic longitudinal leaf
SI—Saginaw integral
SL—Saginaw linkage
TB—Torsion bar suspension
TL—Tension link
WG—Worm and gear
WR—Worm and roller

▲—Figures for front wheel given, rear wheel is ¼ in. narrower and ½ in. thick
▲—Rear drum is 1 in. smaller
□—Front wheel lining shown, rear wheel 1 2 in. wide. Rear shoe, front wheel, is 1 thick
†—Rear shoe, front wheel, is ½ in. thick
■—Front wheel figure given, rear wheel ½ in. narrower
●—Front wheel figure given, rear wheel ½ in. narrower
**—Figure given for Meteor 6
x—Catalina, Star Chief, Bonneville figure
Grand Prix gear ratio is 41 to 12
*—E-Stock—43-13

WAGNER® LOCKHEED® . . . NUMBER ONE IN O. E. M. QUALITY FOR 37 YEARS

Wagner
Lockheed

POWER BRAKE REPAIR KITS

are simple to install



***HOW-TO-DO-IT
Installation Sheets
help you do
profitable power
brake repair jobs.***

Now, you can easily handle profitable power brake repair jobs on passenger cars or light trucks. Every Wagner Lockheed Power Brake Repair Kit includes an easy to follow instruction sheet that identifies all parts and shows your mechanic just what steps to take in disassembling and assembling all sub-units and components.

You have a selection of single packaged units, major kits, minor kits, packing kits and poppet valve kits.

For details on this line of O.E.M. (Original Equipment Manufacturer) Quality—ask your Wagner Distributor . . . or write us for Catalog AU-1295.

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Manufacturers of LOCKHEED® Products

News for Jobbers



ASI Show Expected To Set Records

If advance publicity and promotion mean anything, the International Automotive Service Industries Show, to be held on Navy Pier, Chicago, Feb. 28-Mar. 3, will be the most heavily attended of any national parts show.

The Joint Operating Committee, of which Victor B. Day, Bear Manufacturing Co., is chairman, is saturating the five-state area of Illinois, Indiana, Iowa, Michigan and Wisconsin with mailings to jobbers and retail outlets. The 2,000 jobbers in the surrounding area are being supplied with special promotion kits containing sample letters for distribution to the trade, "Trade Days" stickers and retail prizes for shops attending the show on Mar. 2 and 3.

In addition, a speakers' bureau set up by the JOC is being provided with color slides for speaking engagements throughout the Greater Chicago area.

The IASI Show opening will be attended by Miss Illinois.

As usual, the show will be the nucleus around which will be held conventions and meetings of many organizations in the automotive aftermarket.

ASIA Members Honored

With distinguished service awards going recently to 333 members for outstanding service to their

communities and to the industry, the total of firms honored by the Automotive Service Industry Assn. now totals 506. This number includes wholesalers, manufacturers, warehouse distributors and rebuilders.

Four New Directors Named by MEMA

Four new directors have been elected by the Motor and Equipment Manufacturers Assn., to serve from 1962 through 1964. They are H. F. Davis, Champion Spark Plug Co.; J. B. Doll, Federal-Mogul-Bower Bearings, Inc.; T. A. Kreuser, Bendix Automotive Service, and S. S. Orben, Ingersoll-Rand Co.

Membership of the MEMA is at an all-time high, according to a recent announcement. During the first nine months of this year, 53 more manufacturers have been admitted to membership, which is now above 500.

Wheel and Rim Group Elects Hemphill

Wayne Hemphill, Omaha Rim and Wheel Co., Omaha, Neb., has been elected president of the National Wheel and Rim Assn., to serve through the next fiscal year. Vice president is J. H. Robblee, Six Robblees', Inc., Seattle, Wash. The next meeting of the NWRA will be held at Seattle in September next year.

Warehouses Show Gain for Year

Total and average sales by warehouse distributors gained during 1960, according to the results of a survey announced last month by the Credit Dept. of the Motor and Equipment Manufacturers Assn. The survey covered 24 warehouse distributors.

Aggregate sales for the group were \$23,853,832, a gain of 6.4 per cent over 1959. Average sales were \$993,910. Gross profit for the 24 warehousemen was 21.4 per cent compared with 20.7 per cent the previous year.

Increased expenses—18.3 per cent last year compared with 17.5 per cent in 1959—caused net profit to drop from 2.5 per cent of sales to 2.3 per cent. The net profit figure is after taxes. The figure compares with 2.5 per cent for redistributing jobbers after taxes last year.

The inventory turn of the warehousemen was 4.2 times, down from 4.6 in 1959. The turn by redistributing jobbers in 1960 was 3.1 times.

ASIA Picks Slogan For Meeting

"Thinking New for 62," is the slogan chosen for the convention of the Automotive Service Industry Assn. to be held at Chicago Feb. 26-27. Jack S. Tanner, Fort Myers, Fla., jobber, coined the winning phrase.

Both the Sherman and the Conrad Hilton have been selected as headquarter hotels for the convention.

The Young Executives Forum of ASIA has just published a membership directory. It contains the names of over 300 wholesaler, manufacturer, warehouse distributor and rebuilder young executives.

[CONTINUED ON PAGE 100]



WINS OEM approval!

Now adopted for one or more applications by leading car factories and manufacturers of trucks, diesel engines, farm tractors, etc.

ONCE YOU TRY...YOU'LL KNOW WHY!

new FEL-COPRENE

the new rubber gasket for cylinder head covers, crankcase and automatic transmission oil pans, etc.

Fel-CoPrene is being used increasingly for O. E. M. for the very same reason that you should be using it. Proving ground and laboratory tests, backed by several years of astonishing results on millions of cars, prove beyond doubt Fel-CoPrene is a most superior sealing material.

Fel-CoPrene is an exclusive rubber formula developed by Fel-Pro in cooperation with leading car factories. Its exceptional dimensional stability eliminates those annoying problems of fit. Even after months of storage, Fel-CoPrene does not break... become brittle... lose resiliency... or change its size. Ask your Fel-Pro Jobber for Fel-CoPrene... and get more than your money's worth... in perfect fit... and in better performance. Or write for samples and FEL-COPRENE FACT SHEET—FELT PRODUCTS MFG. CO., Skokie, Illinois, Since 1918.

F

gaskets



**specially designed
with your profit
uppermost in mind**

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MOTOR, November 1961

News for Jobbers

continued from page 98

Automotive Ad Council Honors Four

T. Faxon Hall, Walker Manufacturing Co., Walter Kirkpatrick, Wilkening Manufacturing Co., Richard Carr, Olin-Mathieson Chemical Corp., and Herman Teetor, Perfect Circle Corp., received lifetime honorary memberships in the Automotive Advertisers Council at the fall meeting, held recently at London, Ont., Canada. All four are former members of the ad council.

Chief point of discussion at the meeting was the Canadian market. Most of the speakers were Canadians, including Tom Whellams, executive secretary of the Canadian Automotive Wholesalers and Manufacturers' Assn.

D. L. Products, Inc., Buffalo, was admitted to the council as a new member.

FTC Charge Amended

Inland Rubber Corp., Mansfield, Ohio, has had a complaint against it by the Federal Trade Commission amended. The amendments, according to the FTC, more clearly describe the pricing practices in question. According to FTC, Inland granted price rebates on tire and tube repair materials based on cumulative annual dollar volume of purchases.

Completes Plant

Expansion and modernization of its Fulton, N.Y., plant has been completed by the Armstrong Cork Co. The plant's capacity has been doubled by two new buildings containing 16,880 sq. ft. of floor space.

Mechanics Prefer Ring Jobs

A recent survey of mechanics' preferences by the Piston Ring Manufacturers' Group, showed that 54 per cent prefer to replace piston rings than do any other type of service. The preference for this type of work, the survey showed, was closely related to the amount of training and experience the me-

chanic had, as well as the wages received for the work.

The survey covered 143 shops, including 111 general repairshops and 17 car dealers. Of the repairshops reporting, 100 per cent did engine overhaul work.

A majority of the shops relied upon previous customers for their business. Satisfied customers accounted for 63.7 per cent of the total. The selling points judged most effective in selling engine overhaul jobs were, in the order of importance: (1) Greater oil economy,

(2) cheaper than buying another car, (3) compression test, (4) excessive smoke, (5) breather blow-by, (6) more power, (7) safety, (8) noisy engine, (9) better gas economy, (10) hard hot starting.

AERA Approves Six

Six new members have been admitted to membership by the Automotive Engine Rebuilders Assn. Of these, three are active and three associate. One of the new associates is located in Switzerland.



Moog makes power steering

1 EASY TO SPOT! Just look for these tell-tale signs:

- Noise, vibration or pulsation in steering unit
- Hard steering during normal driving
- Turns one way easier than the other
- Poor return of steering wheel
- Steering wheel jerks or surges when parking
- Hard steering while parking
- Momentary increases in effort needed to turn wheel

2 EASY TO MAKE! MOOG power steering repair parts get to the heart of the problem. Loss of power steering fluid can sometimes be traced to leaky seals. These units are easily rebuilt by using MOOG Seal Kits. They contain all replaceable parts—everything you need to put the unit in tip-top condition.

One of the big power steering problems is worn-out pressure hoses. They're simple to replace with new MOOG Pressure Hoses—takes just 15 minutes and a single wrench. Imagine the car owner's surprise and gratitude at such a quick, economical repair.

MOOG MEANS

MOTOR, November 1961

Buys Tool Firm

Agreement has been signed by Lectrolite Corp., Defiance, Ohio, to sell its assets to the Symington Wayne Corp. In addition to its Defiance plant, Lectrolite operates seven other factories here and seven abroad. It will be operated as a wholly owned subsidiary.

Cited on Prices

A consent order prohibiting the firm from discriminating in price among the leading customers has

been signed by the Perfection Gear Co., Harvey, Ill., and approved by the Federal Trade Commission.

New Unit Formed by Bendix

T. A. Kreuser has been named general manager of the newly formed Bendix Automotive Service. Formation of the new unit has been made by the Bendix Corp. as part of its program of consolidating the aftermarket activities of eight divisions.

The new division will handle brakes, brake lining, power steering, fuel pumps, carburetors, filters, universal joints, ignition systems and starter drives.

Builds Canadian Plant

A new battery manufacturing plant at Drummondville, Quebec Canada, has been completed by Prest-O-Lite Battery Co., Ltd. The company is a subsidiary of the Electric Autolite Co.

The new one-story building contains 45,000 sq. ft.

Jobber Doings

Straus-Frank Co. has bought Moore Brothers Distributing Co. Houston, and the Connor-Mathe Co., Plainview and Lubbock, Tex

The California Automotive Wholesalers' Assn. has adopted a resolution backing the ASIA-National Congress of Petroleum Retailers Freedom Council. The association also went on record as opposed to unnecessary government controls.

Bobro Products, Boston warehouse distributor, conducted a seminar last month with five manufacturers participating. They were: Doan Manufacturing Corp., Moog Industries, Airtex Automotive Division, Dorman Products and Plastiko, Inc. Among the 65 persons attending, 45 were jobbers.

Manufacturers' Personnel

EDWARD L. ELLICKSON to sales manager, Electric Service Systems, Inc.

J. THEODORE WOLFSON to new position of assistant to the chairman, Maremont Corp.

JOHN S. HARBISON to marketing manager, J. E. MORRISON to manager, Exide Sales, and B. A. MACLEOD as manager, Willard Sales, Automotive Div., the Electric Storage Battery Co.

G. HARVEY PORTER to director of marketing services, ALEX N. DAHL to manager of special sales, WILLIAM G. BURGGRAF to assistant advertising manager, product service and export divisions, WILLIAM H. DREWS to assistant advertising man-

(CONTINUED ON PAGE 10)



repairs easy as 1-2-3

3 EASY TO STOCK! MOOG Power Steering Repair Parts are neatly packaged—take up a minimum of space. Special MOOG PSA-1 Merchandiser offers 18 popular seal kits and 8 hose assemblies in one compact display for counter or window use.

MOOG's Streamliner Steering Catalog carries the most complete listings available for both old and new model cars. Gives you broadest possible coverage of the fast-growing power steering repair market.



NOW IS THE TIME TO ESTABLISH YOURSELF AS "HEADQUARTERS FOR POWER STEERING REPAIRS." Get in on the ground floor and let power steering's rising popularity build your business for you! It's easy as 1-2-3 with the right stock of MOOG Power Steering Repair Parts plus hard-selling merchandising aids available from your MOOG distributor.



MOOG INDUSTRIES, INC. St. Louis 33, Mo.

MORE UNDER-CAR BUSINESS

News for Jobbers

continued from page 101

ager and RICHARD C. WELLS to marketing manager, industrial-automotive division, the Black and Decker Manufacturing Co.

MILTON J. WEATHERHEAD, Jr., to merchandising manager, fuel pumps and related items, and WARREN D. REIBEL to merchandising manager, lamps, pressure caps and hydraulic valve lifters, AC Spark Plug Div.

STANLEY E. HESS to assistant general manager, industrial division, Symington Wayne Corp.

RICHARD D. KUDNER to advertising manager, Champion Spark Plug Co.

MAX ALPERIN to director and chairman of executive committee, and ROBERT A. REISMAN to director and executive vice president, the Crescent Co.

A. J. FAVARA to assistant sales promotion manager, Heli-Coil Corp.

RICHARD A. GRAY to field sales supervisor, Martin Filter Corp.

What Caused This?

Answer to problem on page 64

The clue was provided by the customer's remark that the generator was "always charging full." A check of the regulator showed a high output setting. Of course, the greater the generator output, the higher will be its operating temperature. In this case, the temperature was high enough to melt the solder at the commutator, causing the windings to break loose. Centrifugal force throwing the loose wires against the pole shoes did the rest of the damage.

Self-Service Gas Pump Takes Cash or Credit

A gasoline vending machine that dispenses gas, records sales, gives customers receipts, turns off and resets the entire unit is one of 173 new products and processes listed in the Small Business Administration's September issue of "Products List Circular."

The self-service pump is reportedly capable of accepting coin or credit cards and holds promise of permitting service stations to remain open on a 24-hour basis without personnel.

Design Award to Valiant

The Valiant Signet 200 has won the Society of Illustrators' 1962 styling award for outstanding design. A citation accompanying the award hailed "the creative sculpture design of the Valiant Signet 200."

Willys Offers Jeep Fleetvan



Jeep Fleetvan is powered by 4 cyl. F-head engine

Newest Willys truck is the 1/2-ton Jeep Fleetvan, a larger version of the vehicle built for the Post Office Dept. Wheelbase is 81 in. and overall length 154 in.

new

Now everyone can have hydraulic power, Mr. M. And all because of us!

We're just too generous, Mr. H. Shall I give our Suit-A-Pull another 10 ton turn?

"Just think, Mr. M., with just a normal turn of the hand servicemen can apply up to 10 ton psi hydraulic power to hundreds of everyday pulling jobs... wherever the manual calls for a 'suitable' puller.

"It's an all-purpose tool for sure, Mr. H. And easy to use: no hammers, wrenches, 'cheater' bars needed... and works with most all 6, 8 and 10-inch bars already in the shop.

"And don't forget what a money-saver Suit-A-Pull is, Mr. M. One-third the price per ton of all other hydraulic pullers... under \$20 with a two-leg yoke... just a little more with three-leg yoke."

"Isn't it interesting how the ram base stays firm during the pulling? No rotating whatsoever. Comes with a four inch extension too."

"We've really thought of everything, Mr. M. Every shop owner will want one."

See your Hilti Jobber or write direct today.

Air Conditioning Service Unit

Complete servicing Station: purging, evacuating, charging, testing. Exclusive feature: controlled heat of refrigerant.

Hang-Over Tune-up Hoist

Slides you over the engine for close work. Adjustable, lightweight. Easy to store. No more damaged fenders.

SELECT SERVICE TOOLS & EQUIPMENT
hinckley myers company
 28501 mound road, warren, michigan
 sales department

61-5HM

AUTO PARTS GET THERE FASTER



Got a shipment going hundreds of miles? Get it out by 9 A.M.... it arrives the same day! Got a shipment going about 50 miles? Ship it out around 9 A.M.... it's there by noon!

Whatever the destination of your shipment, chances are, a Greyhound is going there anyway... *right to the center of town.* Greyhound travels *over a million miles a day!* No other public transportation goes to so many places—so often.

You can ship anytime. Your packages go on regular Greyhound passenger buses. Greyhound Package Express operates twenty-four hours a day... *seven days a week...including weekends and holidays.* What's more, you can send C.O.D., Collect, Prepaid...or open a charge account.

CALL YOUR LOCAL GREYHOUND BUS TERMINAL TODAY...OR MAIL THIS CONVENIENT COUPON TO:

GREYHOUND PACKAGE EXPRESS

Dept. L-6, 140 S. Dearborn St., Chicago 3, Illinois

Gentlemen: Please send us complete information on Greyhound Package Express service...including rates and routes. We understand that our company assumes no cost or obligation.

NAME _____ TITLE _____

COMPANY _____

ADDRESS _____ PHONE _____

CITY _____ ZONE _____ STATE _____

IT'S THERE IN HOURS...AND COSTS YOU LESS!

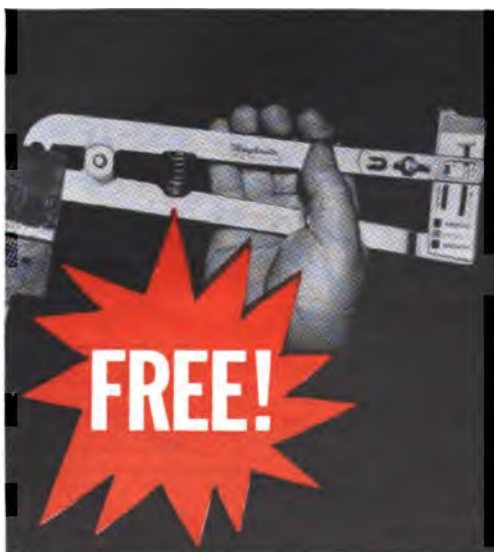
FREE *Raybestos* SAFE-T-GAGE^{*}

lets you show motorists how much  is left in their linings!



*Patent Pending

- Adjusts instantly for accurate readings on either bonded or riveted lined shoes
- Proves whether brake lining is unsafe
- Builds customer confidence in your integrity
- Gets wheels off cars
- Dramatizes fact that your shop uses modern tools
- Helps you clinch every possible sale



SAFE-T-GAGE makes

Raybestos

**7 POINT
BRAKE
CHECK**

(includes adjustment)

even more effective

Combine this revolutionary precision caliper-type gage developed by Raybestos engineers with the famous Raybestos 7-Point Brake Check and you have a real double-barreled selling plan. Now more than ever before you can make wheels off pay off.

RELINE
CARS
AND MAKE
\$42.37*
PROFIT
ON BRAKE
LINING ALONE



... PLUS YOUR
LABOR
PROFIT!

Add to this the profit on correlated parts and you can see at a glance why we say brake business is big business —big profit business for you —especially when you use revolutionary Raybestos Safe-T-Gage.

*Based on PG set suggested retail price

Here's how you can get...

FREE

SAFE-T-GAGE



FREE

colorful pole sign
(14 in. x 20 in.)



FREE

large inside poster



FREE

pump giveaway folders



FREE

steering wheel tags
for use after relines



FREE

brake shoe application data



FREE

Raybestos Brake Service Guide



FREE

brake job estimate
folders for motorists



... a Raybestos BS-8-lined Brake Shoe Lining Kit from your distributor. It provides coverage for 43 different front axle applications on popular passenger cars and light trucks from 1958 through 1961.



RELINING WITH
Raybestos
AMERICA'S BIGGEST SELLING FRICTION MATERIAL

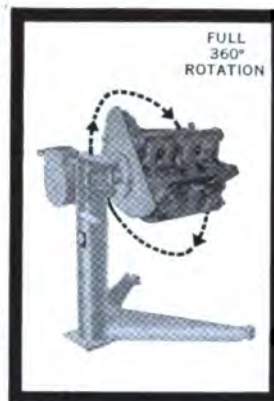
RAYBESTOS DIVISION of Raybestos-Manhattan, Inc., BRIDGEPORT, CONN.



**Top, bottom, sides...
all hard to reach engine
areas worked easily
with new OTC
positioning
stand**



ENGINE
POSITIONING
STAND
OTC No. 1700



ENGINE WORK DONE FASTER, SAFER, EASIER, FOR BETTER OVERALL SHOP PROFITS

New OTC engine positioning stand is fast and safe to operate—allows mechanic to easily rotate engines through a full 360°.

A self-locking matched worm-and-gear set, with 8" crank, allows engine to be locked in any position. Engines are mounted on stand by means of an adapter bracket which is bolted to stand and engine.

Model No. 1700 weighs only 135 lbs., handles engines weighing up to 1200 lbs. Stand can be bolted to floor, or made mobile with optional caster assembly.

Here is a valuable piece of equipment which speeds up engine service . . . gives you added profit in time saved.

Visit us at the 1962 A.S.I.A. show.



OWATONNA TOOL COMPANY

332 CEDAR STREET, OWATONNA, MINN. CABLE: TOOLCO

Designers and manufacturers of the world's
Maintenance Tools and Hydraulics



PULLERS AND PULLER SETS • HYDRAULIC RAMS AND PUMPS • HYDRAULIC SHOCKS • WRENCHES

Things to Come

DEALER CONVENTIONS

- Dec. 4 Utah, Salt Lake City
- Dec. 4-5 Minnesota, Minneapolis
- Dec. 8-9 Montana, Billings
- Feb. 3-7 National Automobile Dealers Assn., Atlantic City

AUTOMOBILE SHOWS

- Feb. 21-25 Hartford, Conn.
- Apr. 21-29 New York, International Automobile Show
- Oct. 20-28 Detroit, National Automobile Show

PARTS AND EQUIPMENT SHOWS

- Dec. 9-11 Annual Auto Trim Show, Los Angeles
- Jan. 29- Feb. 1 Automotive Accessories Manufacturers of America Exposition, Chicago
- Feb. 28- Mar. 3 International Automotive Service Industries Show, Chicago
- Mar. 21-25 Pacific Automotive Show, Portland, Ore.
- Apr. 11-13 Canadian Automotive Service Show, Toronto
- Apr. 12-14 National Truck, Trailer and Equipment Show, Los Angeles

GENERAL

- Nov. 8-10 Automotive Parts Rebuilders Assn. Convention, Los Angeles
- Dec. 7-14 Automotive Electric Assn. Annual Meeting, Chicago
- Jan. 8-12 SAE Automotive Engineering Congress and Exposition, Detroit
- Feb. 26-27 Automotive Service Industry Assn. Convention, Chicago
- May 20-23 Automotive Engine Rebuilders Assn. Convention, Detroit
- June 20-23 Independent Garage Owners of America Convention, Asheville, N.C.
- June 29- July 1 IGO-California, San Diego

Sell Themselves on TBA

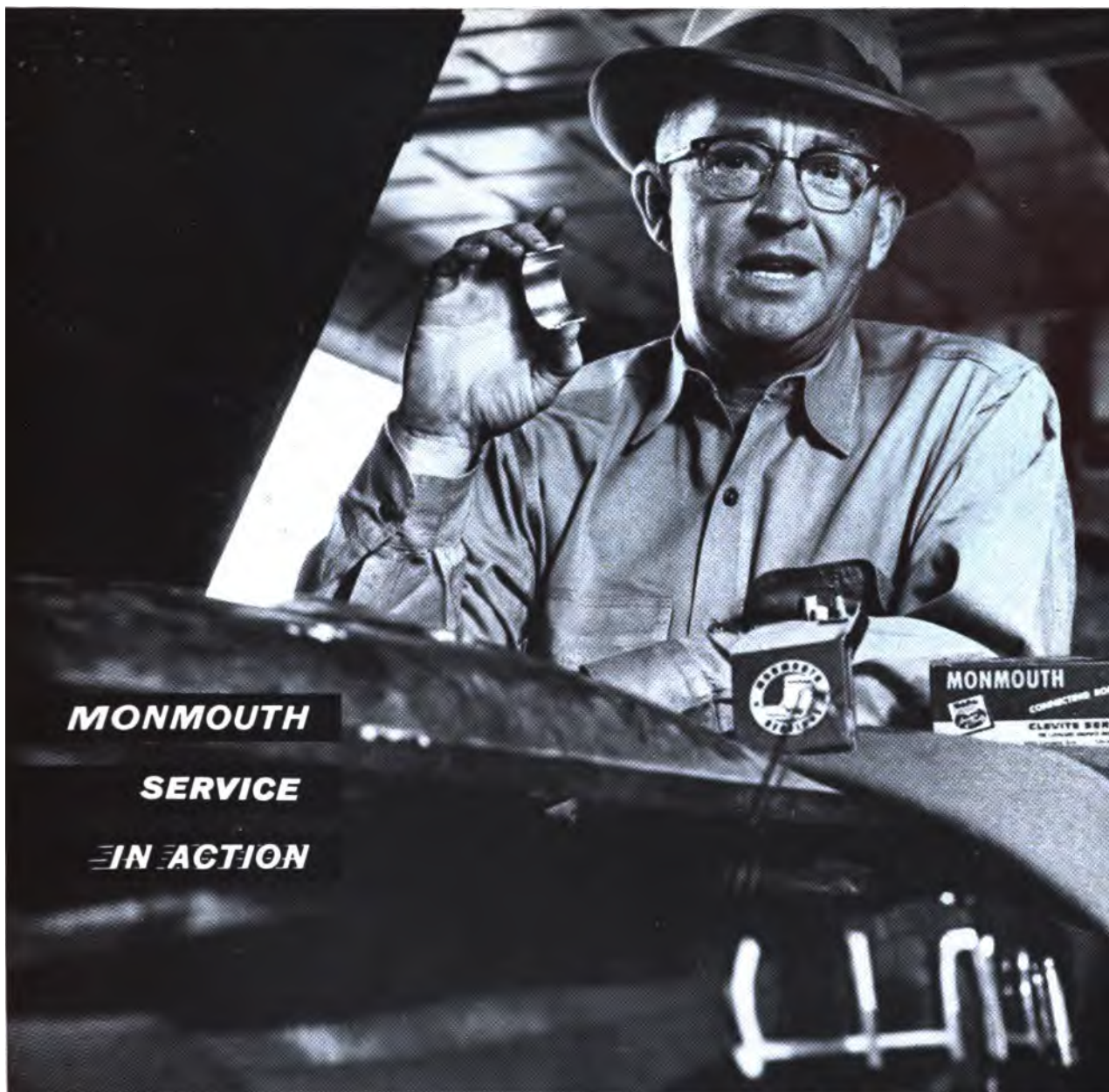
continued from page 47

hospitality into the promotion by setting up an electric coffee urn and a carton of paper cups. While customers either watched or waited for their turn to try a de-icer or test the batteries, they were invited to have a free cup of coffee.

"The few cents we spent on coffee during the day was about the best investment we could make in customer relations," John Karner said. "And, from an even more practical standpoint, while the customer was standing there drinking coffee, he was exposed to our try-it and take-one displays."

Sales figures prove the value of the promotion. During the first four days the display was used, the station sold two sets of snow tires, seven batteries and 16 de-icers.

THE END. NOW TURN BACK TO PAGE 47

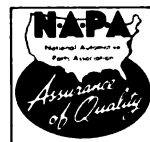


"Monmouth really concentrates on service

... that's why I depend on Monmouth. I can get any bearing I want, as fast as I need it, just by calling my NAPA jobber. And I know Monmouth stands behind my jobber in making a product that's tops in quality. You can't beat that combination of quality and service. It makes my business a lot simpler and more profitable."

says Flake Wells, Jr., Own
Wells Garage
El Paso, Texas

If you want performance that pays off, use Monmouth Bearings in all your engine rebuilds. For instant service, call on your NAPA jobber. He can give you complete Monmouth service on all your engine bearing requirements.



MONMOUTH *Engine Bearings*

CLEVITE SERVICE: Cleveland Graphite Bronze • Division of Clevite Corporation • Cleveland 3, Ohio





New Products

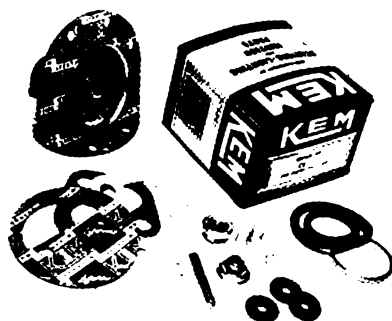
...TO USE ... TO SELL

Everhot Wiper Motors



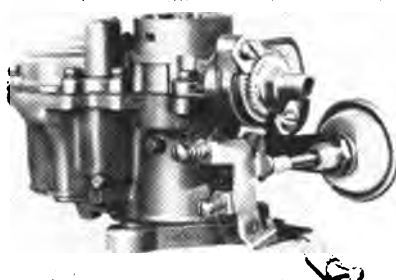
Everhot Products Co., 2001-9 W. Carroll Ave., Chicago, Ill., has added 17 6- and 12-volt electric windshield wiper motors to its line. The new heavy-duty motors provide Ford, Chrysler, Studebaker plus International Trucks with exact duplicates of original equipment motors, the maker says. They are available in single-speed, two-speed, variable-speed and are said to be both heat and weather resistant. Each motor is supplied with all mounting parts for installation.

Kem Repair Kits



Kem Manufacturing Co., Inc., Fair Lawn, N.J., announces a line of repair kits and replacement parts for rebuilding Carter fuel pumps. Each kit contains gaskets, diaphragm, check valves and other necessary parts for complete fuel pump overhaul.

Holley Carburetor



A new carburetor, lighter in weight and designed to meet requirements of compact vehicles, is announced by Holley Carburetor Co., Warren, Mich. The new carburetor, designated Model 1909, reportedly weighs only half as much as the one used previously for similar applications. Its initial use will be on 1962 Ford Falcon and Comet, the 6 cyl. Fairlane and the 6 cyl. Meteor. The carburetor is available with both hand choke or automatic choke.

McQuay-Norris Control Arm



A new inner pivot assembly for the upper control arm of special design to provide extra camber adjustment for late-model Chevrolets is announced by McQuay-Norris Manufacturing Co., 2320 Marconi Ave., St. Louis 10, Mo. Using

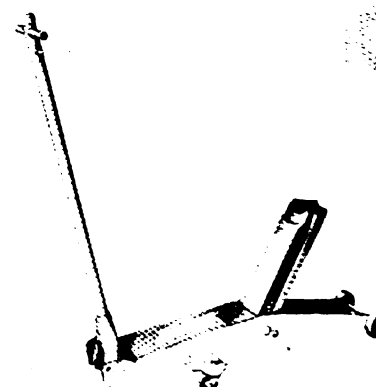
special right and left forgings with $\frac{1}{8}$ in. offset, these assemblies compensate for crossmember sag by providing an extra $\frac{2}{3}$ deg. camber adjustment.

Arrow Rebuilt Generators

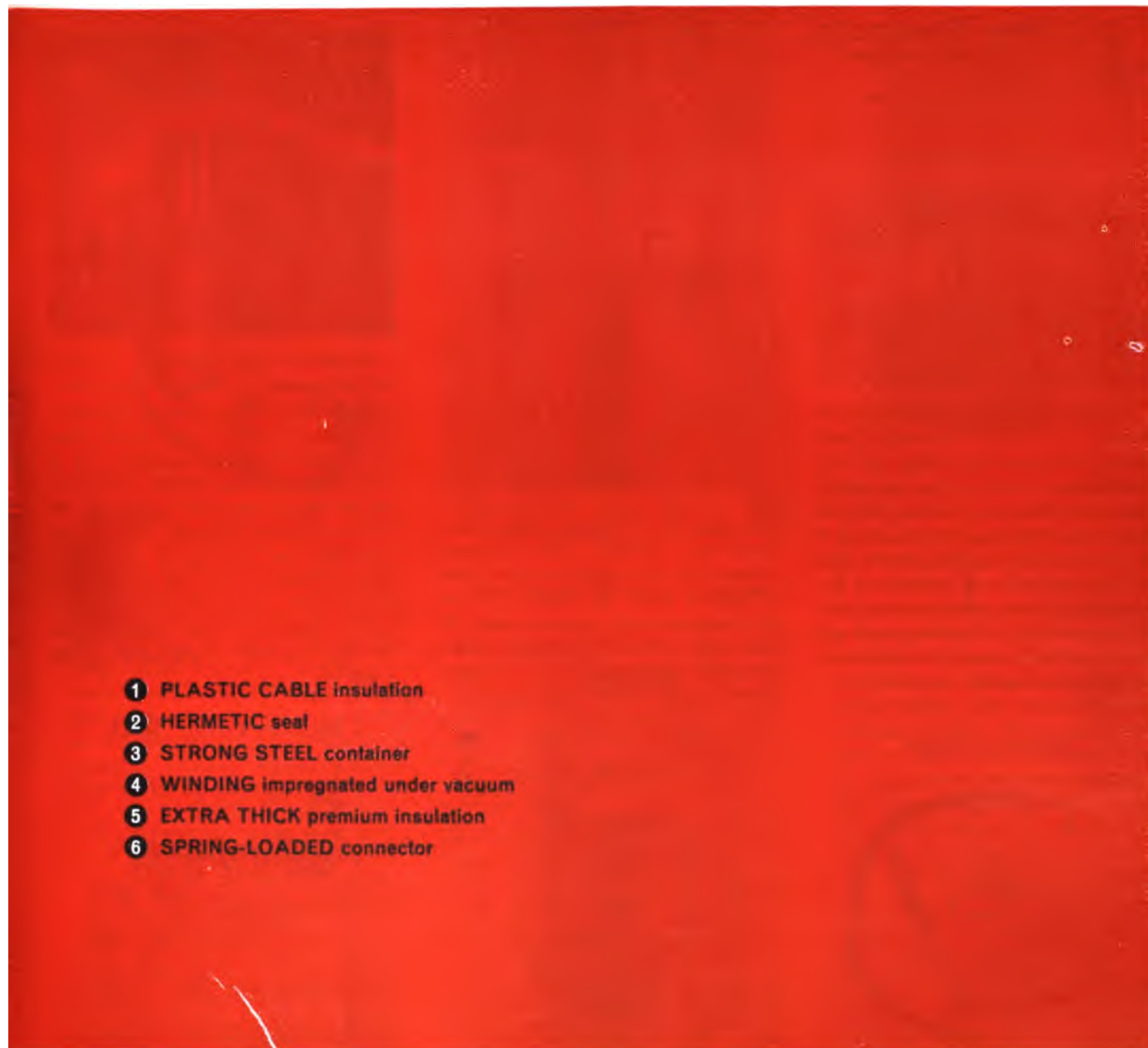


Rebuilt generators for 1961 Cadillacs, Pontiacs and Chevrolets are now available from Arrow Armatures Co., 15 Fordham Rd., Boston 34, Mass. The company says that each generator is an exact duplicate of original equipment and is individually tested.

Hein-Werner Jack

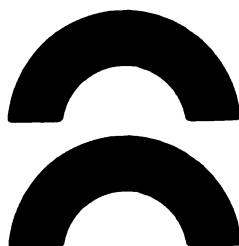


Hein-Werner Corp., 1200 National Ave., Waukesha, Wis., offers a 2-ton hydraulic service jack, designated the Model M. This jack lifts to a height of 25 in. from a low of $4\frac{1}{2}$ in. The company says that the dual piston with automatic cut-off valve provides load contact with two strokes of the handle. The jack is said to be properly balanced for safe handling and reduced pumping effort. [CONTINUED ON PAGE 118]



- ① PLASTIC CABLE insulation
- ② HERMETIC seal
- ③ STRONG STEEL container
- ④ WINDING impregnated under vacuum
- ⑤ EXTRA THICK premium insulation
- ⑥ SPRING-LOADED connector

Delco Remy condensers, like all Delco Remy quality-built electrical system components, are available at leading car and truck dealers and through **United Delco**



DELCO-REMY • Division of General Motors • Anderson, Indiana



New Products

...TO USE...TO SELL

continued from page 108

Armco Canopies



A new line of steel canopies is offered by Armco Drainage and Metal Products Inc., Dept. C. P., Middletown, Ohio. They are available in a range of sizes: Widths from 6 to 50 ft. and heights from 8 to 14 ft. The manufacturers say that the new line of canopies is designed to protect walkways, or cover automobiles at stations, used car lots or parking areas, thus eliminating all snow and ice removal.

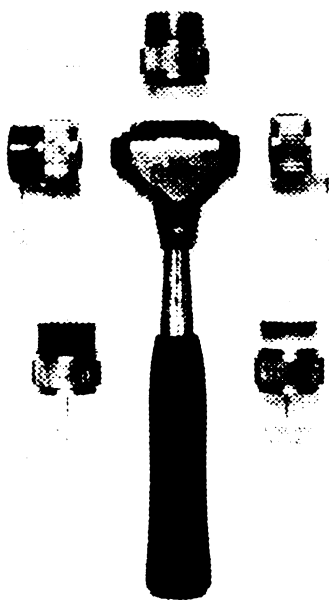
Imperial Hoses



Two new assortments of power-steering pressure hose assemblies are offered by Imperial-Eastman Corp., 6300 W. Howard St., Chicago, 48, Ill. Both assortments, the company reports, meet 128 different car model applications when used with the new Imperial interchange and application chart.

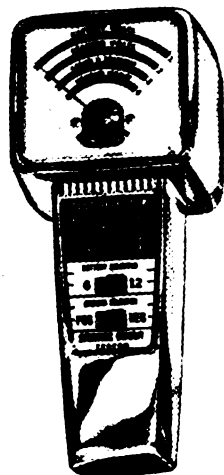
Ramset Hammers

A multi-faced hammer is offered by the Ramset Fastening System, Winchester-Western Div., Olin Mathieson Chemical Corp., New Haven, Conn. Called the Shure-Drive, it can be fitted with five interchangeable and replaceable tips of varying degrees of hardness. The



tips are soft, medium, hard, extra-hard and rawhide. The company claims that although the tip is firmly locked with the holder, it can be loosened with a quick twist. If the tip should become worn through use, it may be removed from its steel collar and replaced.

Kal-Equip Gauge



A new circuit tester that "names" the cause of starting trouble has been announced by Kal-Equip Co., 413 Washington St., Otsego, Mich. The maker reports that no conventional scale, data sheets or interpretations are needed. The unit registers its findings on a multicolored scale. The significance of a color indicated by the needle is explained on the back of the instrument. It identifies the starting trouble, which may be solenoid, cables, starter, connections, battery, etc.

Weaver Single-Post Lifts



A swivel-arm, single-post frame lift designed by Weaver Manufacturing Div., Dura Corp., Springfield, Ill., is said to give more under-chassis clearance, permitting a variety of service work. Adapter height of the new lift is 31½ in. off the floor when lowered. The lift is available in an air-oil operated semi-hydraulic type, an air-oil operated fully hydraulic or an electric-oil operated type. Capacity of all three models is claimed to be 8,000 lb.

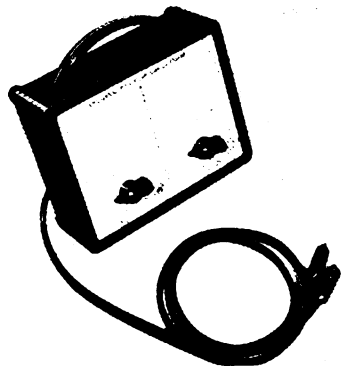
Hanson Gauge Rack



The newest model to be added to its line of electrical equipment by the Harvey E. Hanson Co., Lake Blvd. and Commercial St., Paw Paw, Mich., is a mobile tune-up center. According to the manufacturer, the all-metal stand affords a safe, handy place for seven Hanson tune-up testers: Vacuum, fuel-pump tester; compression tester; power timing light; tachometer; dwell angle tester, generator-regulator tester and ignition tester.

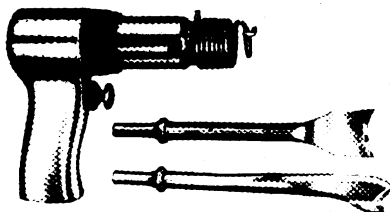
[CONTINUED ON PAGE 121]

Hinckley Myers Tester



Hinckley Myers Co., 28501 Mound Rd., Warren, Mich., has developed an instrument said to provide diagnosis of the fuel and temperature gauge systems for over 95 per cent of the cars on the road today. Called Fastestor, this gauge is said to pinpoint faulty gas gauges, gas tank sending units, wiring harnesses, temperature gauges and engine-heat sending units. Hookup is claimed to be easy and fast.

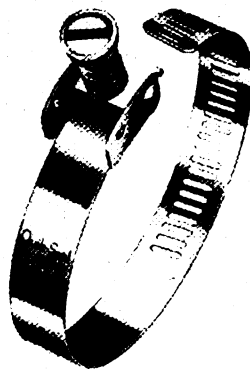
Maremont Air Gun



Maremont Muffler Div., 168 N. Michigan Ave., Chicago 1, Ill., is offering a new Marflow-Matic muffler air gun. The gun operates by a variable-speed, button trigger providing up to 3,000 strokes per minute. It can also be used for cutting panel frames, heavy support posts and welds. Maremont offers dealers six mufflers for the cost of the gun alone.

Murray Hose Clamp

A quick-attach, swivel-type, worm-drive hose clamp is being marketed by the Murray Co., Towson, Md., under the name Quik-Seal. This clamp, the company says, can be attached to radiator



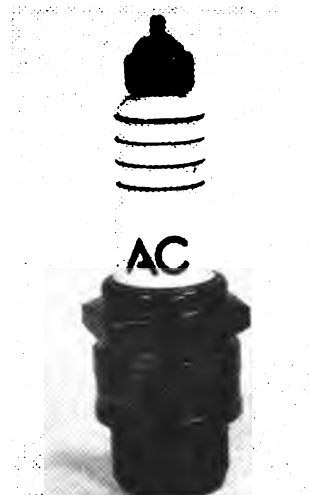
and heater hoses without removing the hose by slipping the open clamp into position, snapping swivel screw into lock position and tightening. The Quik-Seal is available in three sizes, $\frac{3}{8}$ to $3\frac{3}{4}$ in., and will fit all standard heater and radiator hose in use today on U.S.-made automobiles and trucks.

Marquette Battery Charger



A sealed unit battery charger-tester is offered by Marquette Manufacturing Co., Div. of Marquette Corp., 307 E. Hennepin Ave., Minneapolis, Minn. Called Seal-A-Matic model 330, it has electronic semi-conductors, silicon rectifier and control relays hermetically sealed in oil. A special tank made of cast aluminum is designed to provide heat transfer so that all components operate at conservative temperatures. This eliminates the need for a cooling fan. The unit has safeguards to prevent flow of reverse charging current, an automatic voltage selector, a built-in polarity protector and automatic open circuit cut-off.

AC Windshield Washer



AC Spark Plug Div., General Motors Corp., Flint 2, Mich., is offering a plastic windshield-washing squeeze bottle shaped in a replica of an AC Fire Ring spark plug. The bottles are $7\frac{1}{2}$ in. high and $2\frac{1}{2}$ in. in diameter, holding approximately 10 oz. of liquid. They are black, green and white in color and have a snap-closed top that folds down. The squeeze bottles will be in view of motorists every time a windshield is washed. It can be used, the company reports, to help provoke spark plug sales-making conversation.

Heller Hole Saws



Heller Tool Co., Newcomertown, Ohio, announces a complete line of hole saws ranging in diameter from $\frac{1}{16}$ in. to 6 in. for cutting holes in steel, cast iron, stainless steel, aluminum, copper, brass, wood and plastics. Called Nuweld shatterproof hole saws, they are said to have cutting edges of high-speed steel, electrically welded to alloy-steel blades. Saws have a shoulderless design for deep cuts through stacked materials and knockout slots for easy removal of cores.

(CONTINUED ON PAGE 122)



New Products

...TO USE ...TO SELL

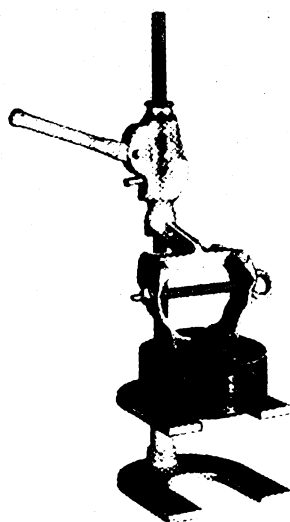
continued from page 121

Owatonna Pliers



A line of retaining-ring pliers is now available from the Owatonna Tool Co., Owatonna, Minn. They are made to handle rings from $\frac{1}{8}$ in. to 10 in. in diameter in either internal, external or universal design. The company reports the plier tips are permanent, that no replacing or setting is necessary and are available in bent or special angles for specific applications.

Malray Clutch-Spring Tool



A tool for compressing the piston-return spring on all automatic transmissions is offered by Malray Products, Inc., P.O. Box 47-885, Miami, Fla. This tool adjusts to fit all

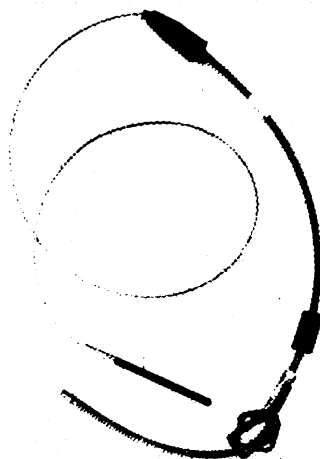
automatic transmission clutch drums. The adjustment screw adapts the arms to the diameter of the spring retainer. A short pull on the handle compresses the spring and holds pressure constant while the snap ring is being removed or replaced.

Vaco Screwdriver



Vaco Products Co., 317 E. Ontario St., Chicago, Ill., reports use of a new plating process for blades of their screwdrivers and nut-drivers. The process, called CNC, results in a blade that is reportedly brighter and with a durable finish. Vaco plastic handles are made of Amberyl, a special material that is said to be breakproof, shockproof, non-absorbent and impervious to most acids.

Grey-Rock Brake Cable



A new line of brake cables, marketed by the Grey-Rock Div., Raybestos-Manhattan Inc., Manheim, Pa., includes replacement sizes for all American-made cars. The company claims that the polyethylene sheath which encases the prelubricated cable assures quiet operation and the copper-plated fittings eliminate rusting at points of installation.

Hawkins Bearing Press



A tool for removing and replacing pressed-on rear axle bearings is offered by Red Arrow Tow Bar Manufacturing Inc., P.O. Box 741, Panama City, Fla. The company says that this bearing press can be used on all American-built cars and trucks and on many foreign cars. Safety for the operator is claimed because the bearing is completely enclosed during the service operation.

Marvel Hi-Rev



Marvel Oil Co. Inc., Port Chester, N.Y., has announced a dual use for its new Hi-Rev. When added to a full tank of gas, it is said, the solvent cleans the carburetor while the car is being driven, removing gum, sludge and varnish. Hi-Rev also said to remove harmful motor deposits when added to the crankcase oil and driven for least 200 miles. The company claims that the use of Hi-Rev in such a manner will restore valves and valve lifters to full operating efficiency, renew lost power and increase gas mileage.

[CONTINUED ON PAGE 122]



New Products

...TO USE...TO SELL

continued from page 122

Baldwin Oil Filter

J. A. Baldwin Manufacturing Co., Kearney, Neb., announces the addition of a 1 in. hex-nut to its spin-on filters for General Motors cars. This nut is said to facilitate removal of the filter on certain Bu-



ick and Oldsmobile engines in which the filter is recessed and

Ease the
PROFIT SQUEEZE
with low-cost efficient
Kellogg-American
Air Compressors

Superior Kellogg-American engineering and workmanship keep costly down-time and maintenance at an absolute minimum.

Kellogg-American compressors assure lower operating cost and higher profits by delivering more USABLE FREE AIR per kilowatt hour.

Warehouses and parts depots are strategically located throughout the country to insure prompt shipment.

Kellogg-American will help you select the most efficient and economical compressor for your requirements from over 250 different models; 1/3 thru 20 HP; single or two-stage; horizontal or vertical.




For full details, see the Yellow Pages for the name of your nearest Kellogg-American jobber or write to:

Kellogg-American

DIVISION SCAIFE COMPANY • PITTSBURGH 35, PA.

there is not enough room to place a conventional strap wrench or plier around the case.

New Business Getters

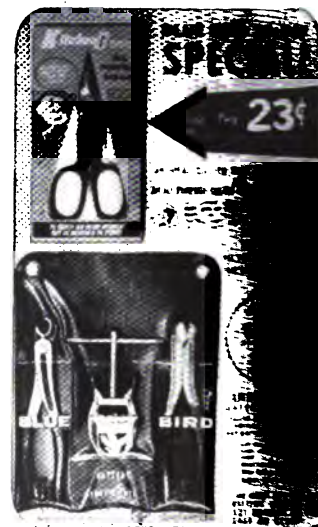
Displays • Signs • Packages

Capac Promotion Aids



New sales aids for the promotion of Capac fuel pump and ignition parts is being offered by Wells Manufacturing Corp., Fond du Lac, Wis. They include 25 by 38 in. window and counter-front banners, colored 10 by 8 in. pressure-sensitive decals, fluorescent signs, booklets, catalog sheets and application charts. Promotion materials are all designed to complement the display of Capac cartons that are stocked on dealers' shelves.

Blue Bird Display

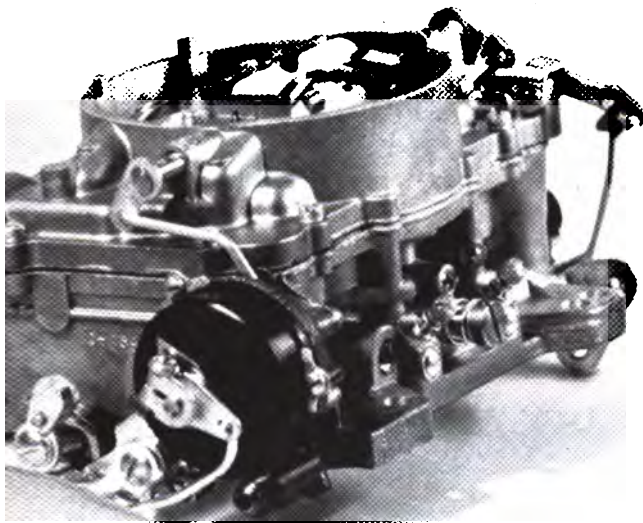


Blue Bird tools for servicing batteries are offered in a special promotion package with kitchen shears by the Bergman Tool Manufacturing Co., Inc. 1573 Niagara St., Buffalo, N.Y. The display is a self-contained combination carton for presentation on counters or walls.

[CONTINUED ON PAGE 129]

NOW...

EVERY CARTER ZIP-FIT CARBURETOR COMES WITH A RESILIENT LEAK-PROOF VALVE SEAT!

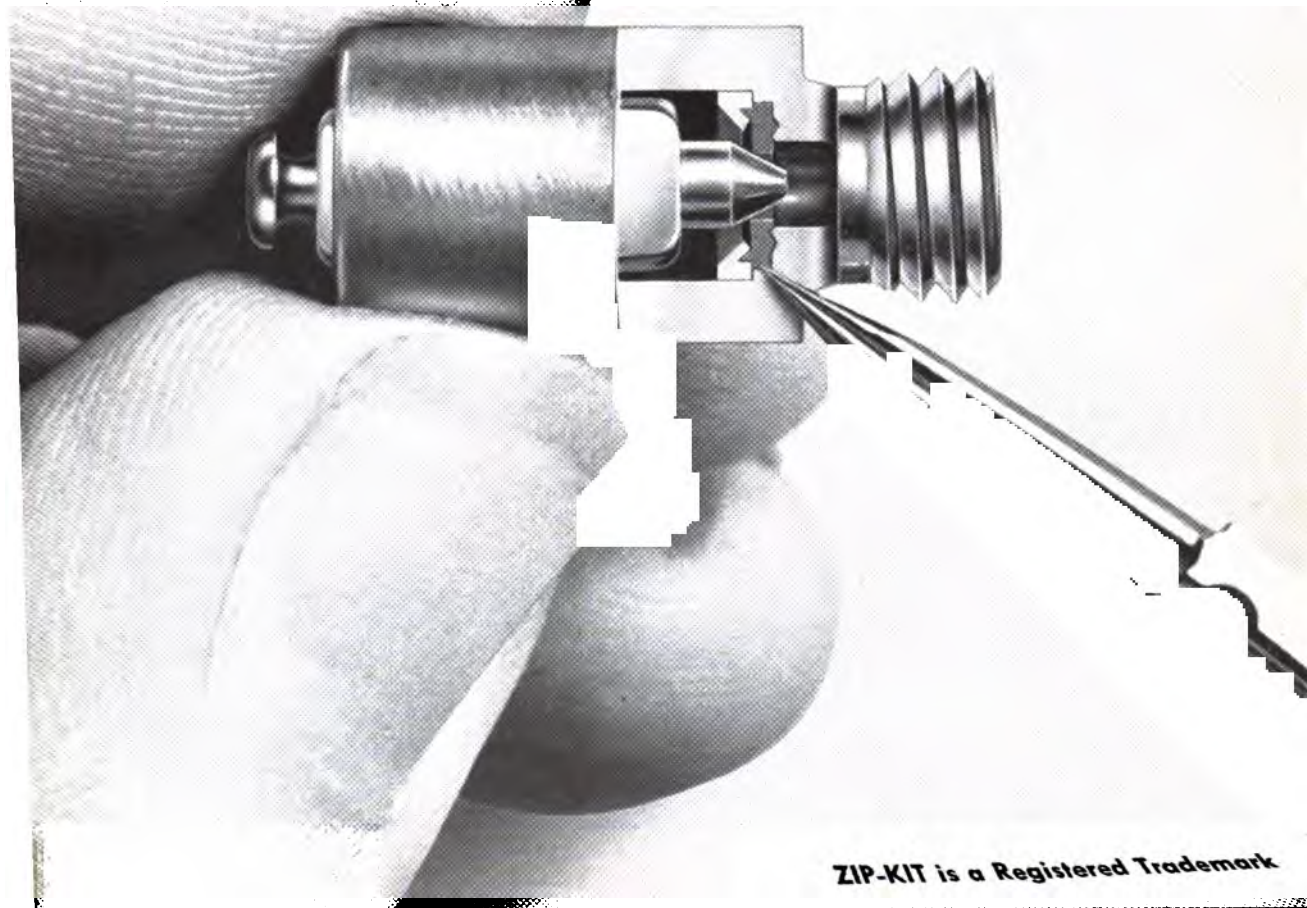


Starting today, you can install the most efficient anti-flooding carburetor ever developed! It's the NEW Carter Zip-Fit Carburetor, now equipped with a resilient, leak-proof valve seat AT NO EXTRA COST! This rubberized, resilient valve seat marks another advancement in Carter ingenuity and carburetor design. Also, the resilient seat assembly is available in Carter Zip-Kits for service of all popular makes of carburetors. Check your inventory . . . stock up with Carter Fuel System Products.

**SELL MORE—SERVE BETTER—WITH CARTER
CARBURETORS • FUEL PUMPS • FILTERS**

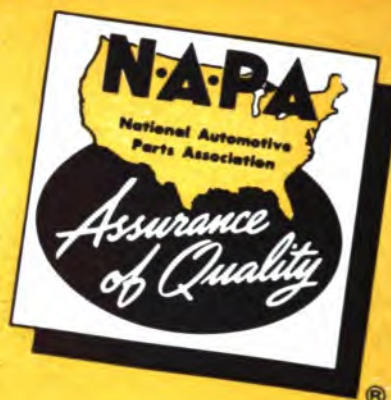
CARTER CARBURETOR

DIVISION OF ACF INDUSTRIES, INC.



ZIP-KIT is a Registered Trademark

Good Sign



Nationally Advertised Parts and Supplies
of Genuine Quality

**Recognized everywhere as
a symbol of prompt service
and genuine quality parts!**

When you put up *this* sign it's a *good* sign you are prepared to handle the lion's share of repair business in your neck of the woods!

For this is the sign motorists look for when they have car trouble.

It's their assurance of prompt service, because they know that the man who displays it can get practically anything he needs for any car at any time from his nearby N·A·P·A Jobber . . . whose stock is replenished daily by *his* nearby N·A·P·A Warehouse.

And it's their assurance of genuine quality parts, because they know that N·A·P·A is the world's largest independent parts organization, dealing exclusively with the industry's leading manufacturers . . . such as those listed on the opposite page.

Talk with *your* N·A·P·A Jobber soon. You'll like the idea of getting all your parts and supplies from one reliable source . . . and you'll bring in more paying customers every day with that nationally-advertised, nationally-recognized N·A·P·A sign!

NATIONAL AUTOMOTIVE PARTS ASSOCIATION • 29 E. MADISON, CHICAGO 2, ILLINOIS

ENGINE

Allied Pistons, Piston Pins, Sleeve Assemblies, Valves, Valve Springs and Water Pumps.

Allied Automotive Parts Co.
Indianapolis, Indiana

MicroTest Timing Gears, Timing Chains & Sprockets

Microtest Timing Gears
Cleveland 12, Ohio

Modac Fan Belts, Air Conditioning Belts, Power Steering Belts, Radiator Hose, Heater Hose, Power Brake Hose

National Products, Inc.
Denver 17, Colorado

Monmouth Engine Bearings

Clevite Service • Cleveland 3, Ohio

Thomson Thermostats, Thermostat Assortments

Standard-Thomson Corporation
Waltham 54, Massachusetts

VICTOR Gaskets & Oil Seals, Power Steering Equipment.

Victor Manufacturing & Gasket Co.
Chicago 50, Illinois

ZOLLNER Aluminum and Bi-Metallic Pistons

Zollner Corporation • Ft. Wayne, Indiana

CHASSIS & DRIVE LINE

Allied Tie-Rod Ends, Ball Joints, Torsion Bars, Coil Springs, Front End Suspension Parts

Allied Automotive Parts Co.
Indianapolis, Indiana

American Brakeblok

Sintermet Transmission Discs
American Brakeblok Division
Birmingham, Michigan

BRIGGS Shock Absorbers and Load Absorbers

Briggs Shock Absorber Company
Cleveland, Ohio

CLEVELAND Universal Joints

Cleveland Steel Products Corp.
Cleveland 35, Ohio

DETROIT Universal Joints, Drive Shafts

Detroit Universal Division
Dearborn 1, Michigan

DITTMER Transmission & Overdrive Gears

Dittmer Gear Division • Auburn, Ind.

Federal Ball Bearings

The Federal Bearings Co., Inc.
Poughkeepsie, New York

MicroTest Automatic Transmission Parts and Kits

MicroTest Gear Company
Indianapolis, Indiana

Monmouth Clutch Plates

Dana Corporation • Toledo, Ohio

RARITAN Roller Bearings

Raritan Bearings • West Trenton, N. J.

Soundmaster Mufflers, Exhaust and

Tail Pipes, Exhaust System Accessories

DeKoven Manufacturing Company
Racine, Wisconsin

Spicer Universal Joints & Propeller Shafts; Transmissions; Power Take-Offs; Clutches; Hub/Lok; Axles;

Dana Corporation • Toledo, Ohio

VICTOR Automatic Transmission Pinion & Wheel Seals

Victor Manufacturing & Gasket Co.
Chicago 50, Illinois

ELECTRICAL & SAFETY

American Brakeblok

Brake Lining, Clutch Facings,

American Brakeblok Division
Birmingham, Michigan

Belden IRS Ignition Sets (Ignition Radiation Suppression), Vinyl and Lacquered Braid Primary Wire, 6 & 12 Volt Battery Cables & Ground Straps, Terminals
Belden Manufacturing Company
Chicago 80, Illinois

BRIDGEPORT Tire Valves, Accessories

Bridgeport Brass Company
Bridgeport 2, Connecticut

ECHLIN Ignition and Electrical Parts

The Echlin Manufacturing Company
Branford, Connecticut

TRICO Windshield Equipment for Motor Vehicles

Trico Products Corporation
Buffalo, New York

TUNG-SOL Directional Signal Flashers

Tung-Sol Electric, Inc. • Newark, N. J.

UNITED Hydraulic Brake Parts, Brake Fluid, Parking Brake Cables and Assemblies, Power Brake Kits, Speedometer Cables and Casings, Fuel Pump Kits

United Parts Division
The Echlin Manufacturing Company
Chicago 7, Illinois

VISALL Turn Signals and Switches; Reflex Reflectors; Truck Mirrors; Flares; Lights—Clearance Marker, Stop and Tail, Emergency, Fog, Driving and Back Up.

Vehicle Products Company
Cincinnati 10, Ohio

Weatherhead Brass Fittings, Oil & Gas Lines, Controls, Hydraulic Brake Fittings, Power Steering Hoses
The Weatherhead Company
Cleveland, Ohio

TOOLS & EQUIPMENT

B*K Test Equipment for Engines, Automatic Transmissions, Electrical and Cooling Systems.

B*K Service Products
Indianapolis, Indiana

FLEET Hydraulic and Mechanical Jacks; Specialized Service Handling Equipment

Edgewater Automotive Division
St. Joseph, Michigan

New Britain A complete line of hand tools for automotive mechanics; plus specialized tools for repair and adjustment of automatic transmissions.

The New Britain Machine Company
New Britain, Connecticut

Soundmaster Heatmaster—Electronic Muffler Removal Tool, Kutmaster—Precision Pipe Cutter, Pipe-rounder and Pipe expander—Safety Fit Tools

DeKoven Manufacturing Company
Racine, Wisconsin

APPEARANCE & MAINTENANCE

BALKAMP Miscellaneous Parts for Ford, Chevrolet, Plymouth and other popular cars; Rubber Products, Switches, Starter Drives.

Balkamp, Inc. • Indianapolis, Indiana

B*K Service and Supply Necessities (more than 1600 numbers)

B*K Service Products
Indianapolis, Indiana

MAC'S Automotive Polishes and Chemicals

Mac's Super Gloss Co., Inc.
Los Angeles 42, California

MARTIN-SENOUR Automotive Colors, Undercoats, Thinners and Reducers, specialties

The Martin-Senour Company
Chicago 8, Illinois

Prospect Contour Replacement Front, Rear and Trunk Mats

Prospect Rubber Company
Cleveland 3, Ohio

ROCKFORD Fasteners, Screws, Nuts and Bolts, (Used Everywhere).

Rockford Screw Products Co.
Rockford, Illinois

Trophy Floor Mats, Litter Baskets
Rubbermaid, Inc. • Wooster, Ohio

The N.A.P.A. "Parade of Parts" serves repairmen everywhere through 3,000

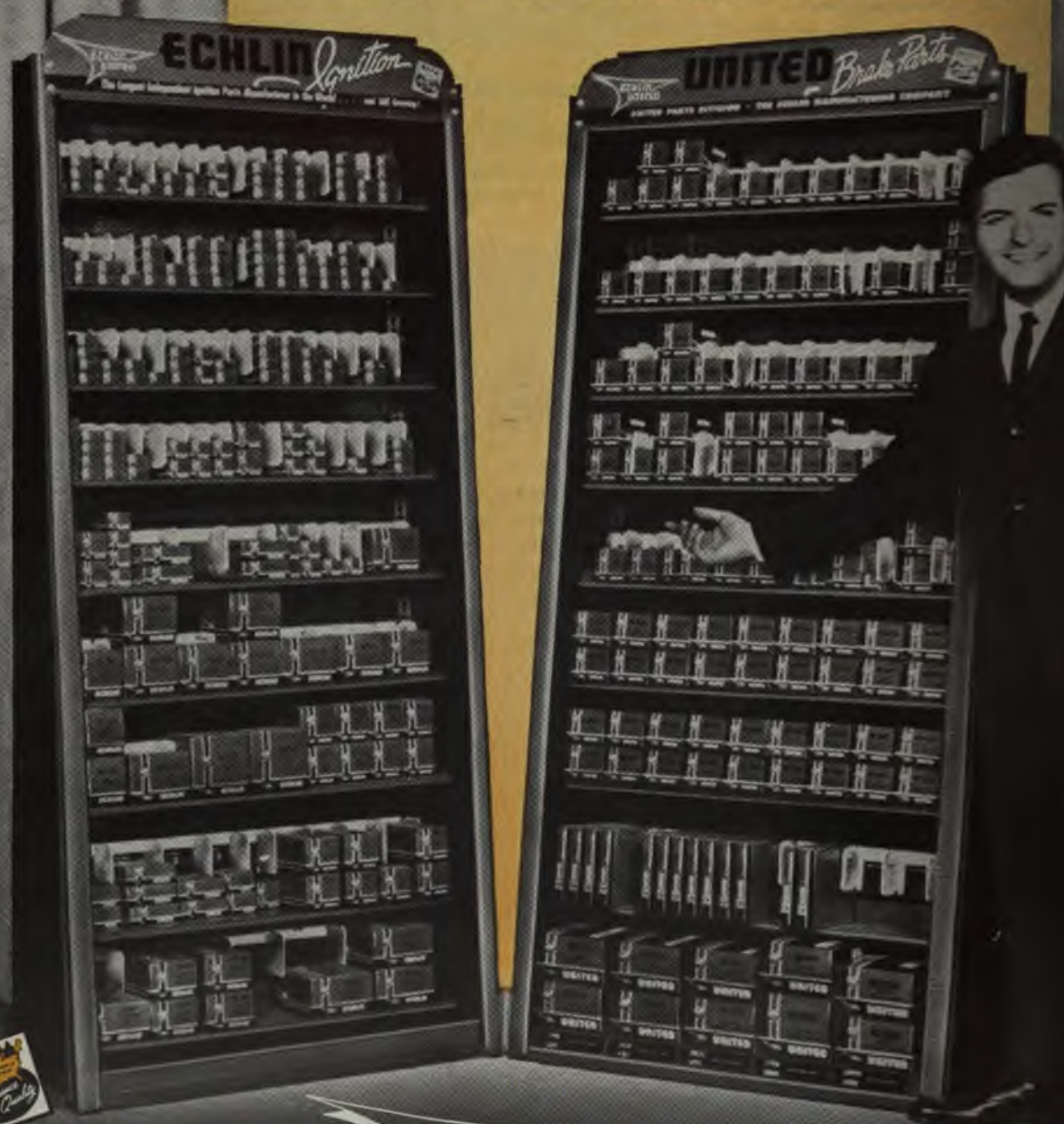
N.A.P.A.

Jobbers



Visumatic selling and service... an unbeatable combination!

- STOCKS INDIVIDUALLY TAILORED FOR YOU
- THE PART YOU WANT WHEN YOU NEED IT
- BALANCED INVENTORY—FAST TURNOVER
- EVERY PART A GUARANTEED SALE
- ANNUAL MODERNIZATION
- EVERY DOLLAR YOU INVEST 100% PROTECTED



ECHLIN *Ignition* **UNITED** *Brake Parts*

THE ECHLIN MANUFACTURING COMPANY • BRANFORD, CONN.

UNITED PARTS DIVISION • CHICAGO, ILL.

ECHLIN • UNITED OF CANADA, LTD., TORONTO

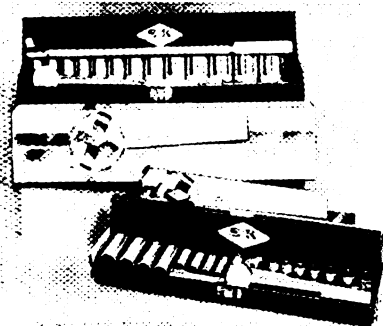
New Business Getters

Displays • Signs • Packages

continued from page 124

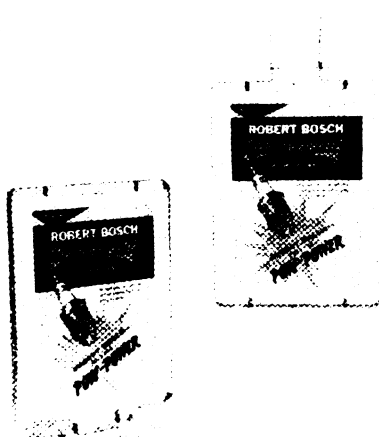
The shears are separately boxed and attached to the three-piece battery tool kit in a hang-up pouch.

S-K/Lectrolite Promotion



S-K/Lectrolite, 3535 W. 47th St., Chicago 32, Ill., offers three popular-size socket sets packaged for Christmas promotion. Printed in green and red, the special cartons are designed to serve not only as a personalized gift pack, but as a display as well. Also included in the company's Christmas promotion is the L-8 display of Lectrolite adjustable wrenches on a display panel.

Bosch Change-A-Sign



Robert Bosch Corp., 40-25 Crescent St., Long Island City 1, N.Y., is offering an advertising device called Change-A-Sign. This display stands on a counter or hangs from the ceiling. The company plans to send out new posters periodically for installation in the sign.

AP Muffler Tags



Muffler inspection tags are now available to dealers from the AP Parts Corp., AP Bldg., Toledo, Ohio. When the inspection tags are filled out after inspection of the exhaust system, the motorist will know the condition of his muffler, tailpipe, exhaust pipe, brakes and clamps. This tag can be placed on the steering wheel or on the dash where the customer can see it before leaving the premises.

Columbus Banner



A giant banner, 10 ft. long, promoting Columbus shock absorbers is now available from the Columbus Parts Corp., 1801 Spielbusch, Toledo, Ohio. It is designed as an attention getter and can be used on walls, in windows or across a counter front.

Tung-Sol Merchandiser



A selection of 60 heavy-duty, 12-volt miniature lamps in a transparent plastic merchandiser and stock bin is now available from Tung-Sol Electric Inc., 1 Summer Ave., Newark 4, N.J. Labeled the 60HD Lamp Assortment, the unit contains 10 each of the most popular heavy-duty type lamps for use on trucks and buses.

[CONTINUED ON PAGE 130]

New from Ken

BATTERY FILLER

- FLOW AUTOMATICALLY!
- SHUT OFF AUTOMATICALLY!
- FILL TO CORRECT LEVEL!
- BIG 2½-QUART CAPACITY

Ken's New B-70 Automatic Battery Filler quickly fills to correct level—shuts off automatically. No spills... No dripping. Ideal for dry charge batteries. Both valve and container are made of high-impact styrene and polyethylene to withstand long, hard use with either water or battery acids. Also features the only automatic valve for which all parts are replaceable!



Dual-Automatic FILLER and TESTER

Another "first" by Ken, this B-71 Automatic Filler and Tester is combined in a single unit to make battery service a one-stop operation. Fills batteries to correct level automatically.

Tests either 6 or 12 volt systems with visual trouble indicator. Extra wire, with simple clip, makes it easy to locate many other car shorts.



Find trouble fast and easy

- Sell more charges
- Sell more batteries
- Sell more service

CALL YOUR JOBBER

Put one of these sales builders to work for you now!



Get your pocket-size copy of Ken's all-new, complete-line catalog. Ask your jobber or write Ken direct.

New Business Getters

Displays • Signs • Packages

continued from page 129

3M Reflector Display

A display assortment of miniature, reflective red stop signs has been announced by Minnesota



Mining and Manufacturing Co., 900 Bush Ave., St. Paul 6, Minn. Each 8½ by 11 in. card holds 2 stop signs packaged and sealed, two per transparent envelope. Individual signs are 2 by 2 in.

Standard Counter Display



A new counter merchandiser has been designed by Standard Motor Products Inc., 37-18 Northern Blvd., Long Island City 1, N.Y., to display its battery post and terminal cleaners. This display holds seven combination tools and three replacement brushes. The function of the tool is explained on the display panel with illustrations to show its correct use.

how to turn thin air...



into fat profits!

Over 14,000 cubic feet of air are needed to burn one gallon of gas. Even an average cubic foot of air contains a million particles of dust...dust that chokes filters, ruins gas mileage and engine performance. A new LEE Air Filter turns that dust into money. Here's how: it takes only two minutes for you to install a flameproof LEE Air Filter—and you make a \$2 profit on every one! You earn big profits on LEE dual-action oil and gas filters too. And, because all LEE filters meet or exceed SAE, OEM and U.S. Government specs, you know you're selling quality. See your distributor or write today.

LEE originators of the FLAME-PROOF AIR FILTER for protection against underhood fires.

© LEE FILTER CORPORATION, EDISON, N.J. Canada: 3 Parnell Ave., Scarborough, Ont.



NEW LITERATURE

Booklets • Catalogs • Manuals

INVENTORY CONTROL CATALOG—This 16-page catalog shows the firm's Visumatic system of stocking parts. The company-suggested method is shown along with new ideas for inventory control for all its ignition and brake parts. Echlin Manufacturing Co., Echlin Rd. and U.S. Route 1, Branford, Conn.

NEW CAR COLORS—A complete directory of 1962 car colors with samples of all leading domestic cars and trucks is offered. The directory includes an interchange chart and an innovation which quickly identifies the four major categories—lacquers, acrylics, enamels and specialties. Martin-Senour Co., 2500 S. Senour Ave., Chicago, Ill.

[CONTINUED ON PAGE 132]

THE *Blue Box* LINE

...Your Guarantee
of *PERFECT*
MATCHED-PERFORMANCE

... **McQUAY-
NORRIS**



gs, pistons, pins, bearings, valve
n parts, water pumps, chassis
ts? All parts in the McQuay-
rris line—designed and manu-
ctured to the same high standards
uality and precision—are known
uniform performance and

longer service. Your McQuay-
Norris Wholesaler is "replacement
parts headquarters" to mechanics
all over the country who have
experienced the satisfaction of
working with the McQuay-Norris
line. Use them on your next job.



McQUAY-NORRIS MANUFACTURING CO., ST. LOUIS • TORONTO

© 1961 McQUAY-NORRIS MANUFACTURING CO.

NEW LITERATURE

Booklets • Catalogs • Manuals

continued from page 130

TUNE-UP HANDBOOK—A newly published tune-up handbook containing 60 pages of facts, figures and illustrations is now available. It is designed to guide the reader through step-by-step procedures in

all tune-up operations while using modern tune-up equipment. Sun Electric Corp., Harlem and Avondale, Chicago 31, Ill.

ELECTRICAL TEST GUIDE—Two new service testing guides are now being offered. One covers voltage regulators, 6-, 12- and 24-volt units. The other covers checking ignition, charging and starting systems on cars and light commercial vehicles. Lucas Electrical Services, Inc., 501-509 W. 42d St., New York, N.Y.

FOREIGN CAR SERVICE—Two service aids giving information for foreign cars have just been released. They are called Tune-Up Guide (TG 402) and Service Hints booklet (SH 400). The former is a three-tab wall chart for use as a reference. It covers ignition systems and valve clearances on practically all imported cars. Service Hints is a reference booklet and a supplement to the owner's handbook. Weatherhead Co., 300 E. 131st St., Cleveland 8, Ohio.

TIRE AND TUBE REPAIR EQUIPMENT—A new eight-page illustrated catalog describing the firm's complete line of tire and tube repair equipment and related materials. Printed to fit all binders, it gives facts and details of products including clamps, valves, tools and patches. Free. The Dill Manufacturing Co., 700 E. 82d St., Cleveland 3, Ohio.

POWER STEERING CATALOG—This 20-page catalog gives specifications on overhaul sets, factory duplicate sets, individual parts and hose assemblies for different power steering systems. It covers General Motors, Chrysler and Ford passenger vehicles from 1952 to 1961. All vehicles are shown in alphabetical order. Free. McCord Corp., Detroit 11, Mich.

MOTION PICTURES—"Clean Up With Cleanliness," a 16 mm motion picture color film with sound, is offered for showing in local service stations. The film stresses the importance of good service station appearance and the customers' satisfaction that it brings. Also included in the film are various methods of engine cleaning. Free. Grey Co. Inc., 60 Eleventh Ave., N.E., Minneapolis, Minn.

LIFT BULLETIN—Bulletin L-151 covers the company's line of Power Master Lifts for cars, trucks and buses. The 12-page bulletin gives illustrations, descriptions and specifications on their two and three-post power master lifts. Included are listings for accessory service adapters and attachments. Free. Lincoln Engineering Co., 4010 Goodfellow Blvd., St. Louis 20, Mo.



BIG SERVICE PROFITS BEGIN HERE

STAR BRAKE SHOP

Here's everything you need to become a complete brake service shop. With a Star Space-Saver Brake Shop you're ready to handle any brake job from start to finish—with the precision equipment to do the best brake work in your area. The Star Space-Saver takes less than five square feet of floor area, rolls anywhere on swivel casters.

You can buy the Star Space Saver Brake Shop now, on Star's Pay-out-of-Profits Finance Plan. Mail the coupon for demonstration proof!



STAR MACHINE & TOOL COMPANY
205 Southeast 6th St., Mpls. 14, Minn.

Yes! I'd like to see what the Star Space-Saver Brake Shop can do for me.

Name

Address

City State



PROFIT TWINS FOR WHEEL SERVICE PRO



COMPLETE OIL SEAL DEPARTMENT WITH E STOCK AND CABINET OF YOUR CHOICE

At a combination for good profits on wheel services—and again it's from Chicago Rawhide. Alone or as twins, C/R merchandising cabinets, tailor-ordered stocks and installation tools make the finest service combinations in the field. And, to help sell wheel services C/R has an unmatched promotion package for you. Ask your supplier for all the details—especially about the new C/R modular cabinet that interlocks side by side or stacks top to bottom to give you the most complete stock in your vicinity!



CHICAGO RAWHIDE MANUFACTURING COMPANY
Service Sales Division Chicago 22, Illinois

In Canada: Chicago Rawhide Products Canada Limited, Brantford, Ontario
Export: Geon International Corp., Great Neck, New York

of Proved Performance

Morris Has Automatic Drive

The Morris Oxford Traveler station wagon, introduced in England last month, is available with a Borg-Warner automatic transmission. Piston displacement has been increased from 91 to 99 cu. in.

Morris four-door wagon



"... of course I can see why Everhot's No. M-802 'Duo' Small Motors Assortment is so popular."

Get into the money-making small motors field — without stocking hundreds of motors! — with Everhot's No. M-802 "Duo" Assortment! Contains only two UNIVERSAL motors to replace 85% of your car and truck heater, defroster and air-conditioner motor replacement needs! You'll have the right motor ON HAND practically every time! Your profit: 37% plus installation profits!

- Floating-type mounting studs!
- Shaft rotation easily changed!
- Uses minimum current at high RPM!
- Shaft adaptor for either 5/16" or threaded end!

New Line of Electric Wiper Motors!
Write for new Everhot Small Motors Catalog No. M-861.



EVERHOT PRODUCTS COMPANY

2001-9 West Carroll Avenue
Chicago 12, Illinois



No. M-802 "Duo" Dealer Assortment takes up only 7" x 7" of space!

Survey Shows Good Service Is Best Sales Tool

Sixty-four per cent of motorists deal regularly with one service station. Good service was the principal reason given for steady patronage. Station convenience was second, brand of gasoline and products third, and fourth, customers like the station operator.

These facts were among those revealed in a research study made by *The Saturday Evening Post*. The report, titled "*The Saturday Evening Post Automotive Survey*," is based on this year's first quarter and covers 2,477 interviews.

According to the survey, 59 per cent of motorists who replaced spark plugs owned two- to four-year old models. Of the 43 per cent who bought batteries, cars were four to six years old. Sixty-six per cent who replaced mufflers owned three- to seven-year old vehicles. And 71 per cent of tune-ups performed were on cars in the two- to seven-year bracket.

Garages Rate High

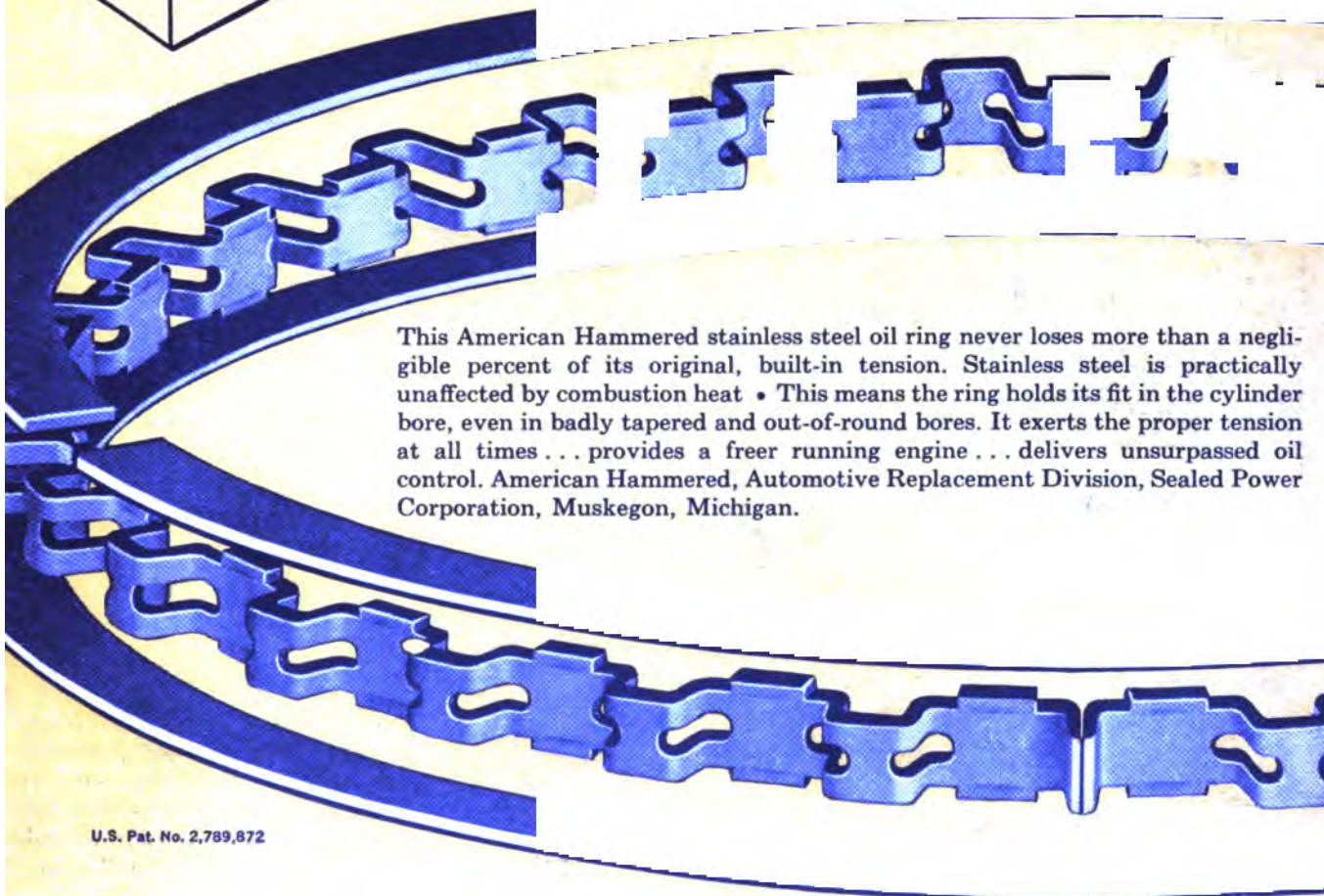
Where did motorists buy replacement parts and services? For tune-ups, garages ranked first with 41 per cent. Service stations were second with 28 per cent and car dealers third with 20 per cent. Twenty-seven per cent bought mufflers at service stations, 26 per cent at garages and 7 per cent at dealers.

Twenty-six per cent purchased their batteries at service stations, 22 per cent at garages and 20 per cent at automotive supply stores.

On spark plugs, 32 per cent purchased units at gasoline stations, 29 per cent at garages and 19 per cent at automotive supply stores.



They don't lose tension



This American Hammered stainless steel oil ring never loses more than a negligible percent of its original, built-in tension. Stainless steel is practically unaffected by combustion heat • This means the ring holds its fit in the cylinder bore, even in badly tapered and out-of-round bores. It exerts the proper tension at all times . . . provides a freer running engine . . . delivers unsurpassed oil control. American Hammered, Automotive Replacement Division, Sealed Power Corporation, Muskegon, Michigan.

U.S. Pat. No. 2,789,872

AMERICAN HAMMERED



stainless steel oil rings

Mercury Unveils New Meteor

continued from page 49

absorb road shock. Front shock absorbers are equipped with rebound cutoff valves to limit front suspension travel.

The rear leaf springs are shackled at both ends. A lever arm extending from the front shackle is encased by a large block of rubber in the shackle bracket. When the rear wheels strike a bump, the rear

axle and spring move backward slightly, compressing the rubber block. The amount of rearward movement increases with the force of the impact. Further insulation against road and axle noise is provided by butyl rubber inserts in the spring-clip plates.

Forces transmitted by the front suspension are carried through the front torque boxes to the side rail rocker panels. The torque boxes are box-section structural members immediately in back of the wheels. They are separated from

the floor pan by a $\frac{5}{8}$ in. gap. As a result, road shock does not travel directly into the floor pan. The rear engine mount is attached to No. 2 crossmember, which is bolted to the torque boxes. Front fenders are also bolted in place for easier removal and replacement in the event of damage. The rest of the body is of all-welded construction. Major underbody structural members are of galvanized steel to resist corrosion and primer containing zinc is used for further protection.

The Meteor chassis requires lubrication at 30,000-mile intervals. Through the use of molybdenum disulphide grease, repacking of wheel bearings and universal joints has been extended to the same mileage.

Brakes Self-Adjusting

Brakes are self-adjusting, duo-servo type with total lining area of 165 sq. in. Drums are stress-relieved by annealing after casting and rough machining. Power brakes and linkage-type power steering are optional.

A three-speed manual transmission is standard on all models. An interlock in the linkage prevents shifting into low or reverse until the clutch is fully disengaged. Overdrive is available with the V-8 engine only. A two-speed automatic transmission, similar to the one used on Monterey and Comet, is optional with either engine. Transmissions and axles require no periodic draining and refilling of lubricant.

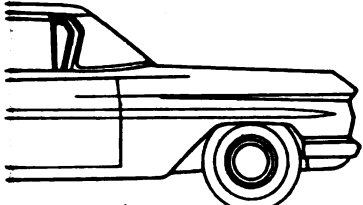
Axle Ratios Listed

Rear axle ratios with manual transmission are 3.50 to 1 with the 6 cyl. engine and 3.25 to 1 with the V-8. The latter ratio is also used in 6 cyl. cars with automatic transmission. The V-8 with automatic has a ratio of 3.00 to 1, while V-8's with overdrive use a 3.50-to-1 ratio. Tire size is 6.50 x 14.

The new 221 cu. in. V-8 engine is only 75 lb. heavier than the 6, due to compact design and the use of a new thin-wall casting process. The crankcase is split at the center line of the crankshaft. Balance sectors are incorporated in the flywheel and the crankshaft pulley. These additional weights make it

[CONTINUED ON PAGE 138]

When the Car is Over 3




...it's time to change the

MOTOR MOUNTS


Motor mounts take quite a beating—and after 3 years "They've had it". Constant torque reaction and oil soaking reduces their effectiveness. Preventive maintenance experts recommend an automatic motor mount check-up on every car three years old or more.

IMPORTANT. Save time and grief—install motor mounts in sets—front and rear—and use the time saving installation assembly kits.

GO ALL THE WAY



USE THE TIME SAVING INSTALLATION ASSEMBLY KITS



DOAN MANUFACTURING
A DIVISION OF ANCHOR INDUSTRIES, INC.
1725 LONDON RD. — CLEVELAND 12, OHIO

Form No. 161

NOW A NEW WORLD OF WORTH



OPENS A NEW WORLD OF OPPORTUNITY FOR CHEVROLET DEALERS!



Impala Sport Coupe—that roof line looks enough like a convertible's to be one!

For '62, Chevrolet dealers have a new world of worth to please just about anybody. Luxurious new Jet-smooth Chevrolets for people who want all the room, refinement and riding comfort they can lay hands on. The totally new line of Chevy II's for the customer who wants modern basic transportation in the best Chevrolet tradition. Nine saucier-than-ever Chevy Corvairs for driving enthusiasts who want sports car spice on a budget. And, for those who are looking for the ultimate in sporty driving, the '62 Corvette.

NEW CHEVY II

*modern basic transportation
in its finest fashion !!!!!!*

Here's a new line of cars that means new customers! A new-size car that's easy to park, pack and pay for. There's a choice of a thrifty 4- or spunky 6-cylinder engine in most models. And it rides big-car smooth, too.

*soon to be available



Chevy II Nova 400 Convertible*



Corvair Monza Club Coupe

'62 CORVAIR MONZA

the car that puts sport in the driver's seat!

All spruced up to make an even bigger hit on the road and in the showroom is the '62 version of the Corvair. It's got saucier styling, snappier interiors and bigger brakes to team up with that sure-footed rear-engine traction. Here's sports car scamper served up family style!

Mercury Unveils New Meteor

continued from page 136

possible to cut the size of the crankshaft counterweights, reducing the space required by the shaft.

Rocker shafts and brackets are eliminated through the use of ball-pivot rocker arms, individually mounted on studs. The hydraulic valve lifters supply oil to the rockers through hollow push rods.

There is no manifold heat con-

trol valve. Heat from the exhaust manifold passes through the intake manifold crossover to aid in vaporizing the fuel. Additional heat is supplied by water in the heater inlet line, which circulates through an aluminum spacer under the carburetor. This arrangement, also used on the 6 cyl. engine, helps prevent carburetor icing. Automatic chokes are standard on both engines.

The 170 cu. in. 6 cyl. engine is the same as the optional Comet powerplant. Improved lubrication

of the rocker arms, new rings, a vibration damper and a new center crankshaft counterweight are 1962 changes intended to improve smoothness and reliability and reduce engine and line noise.

Recommended oil change interval is 6,000 miles for both engines. A new filter has the bypass valve located on top, instead of at the bottom, to prevent circulating sludge and other foreign matter. The valve should open due to a clogged filter. Factory-fill coolant has a specified drain interval of 30,000 miles.

Meteor styling shows the new Mercury family influence with a Continental roof line grille and taillights reminiscent of those of the Monterey. The Mercury name appears on the front and deck lid, while Meteor identification is on the front fenders.

Gauges, rather than lights, are used to indicate current drain and oil pressure.

THE END. NOW TURN BACK TO P

Everything You Need For Automatic Transmission Repairs

Parts

Parts Kits

Service Information

(Wall Charts, Manuals, Catalogs, Field Clinics)

See Your N·A·P·A Jobber



● For *complete* parts service for automatic transmissions on cars of all makes, models and ages . . . for the latest approved techniques of adjustment, repairs, or complete overhauls . . . contact your N·A·P·A Jobber, a good man to know.



Expands Highway Rese

To help states plan future highway construction, the Auto Safety Foundation announced it will expand its highway research program. The first project of the new program will be a study for the state of Washington.

DEATHS

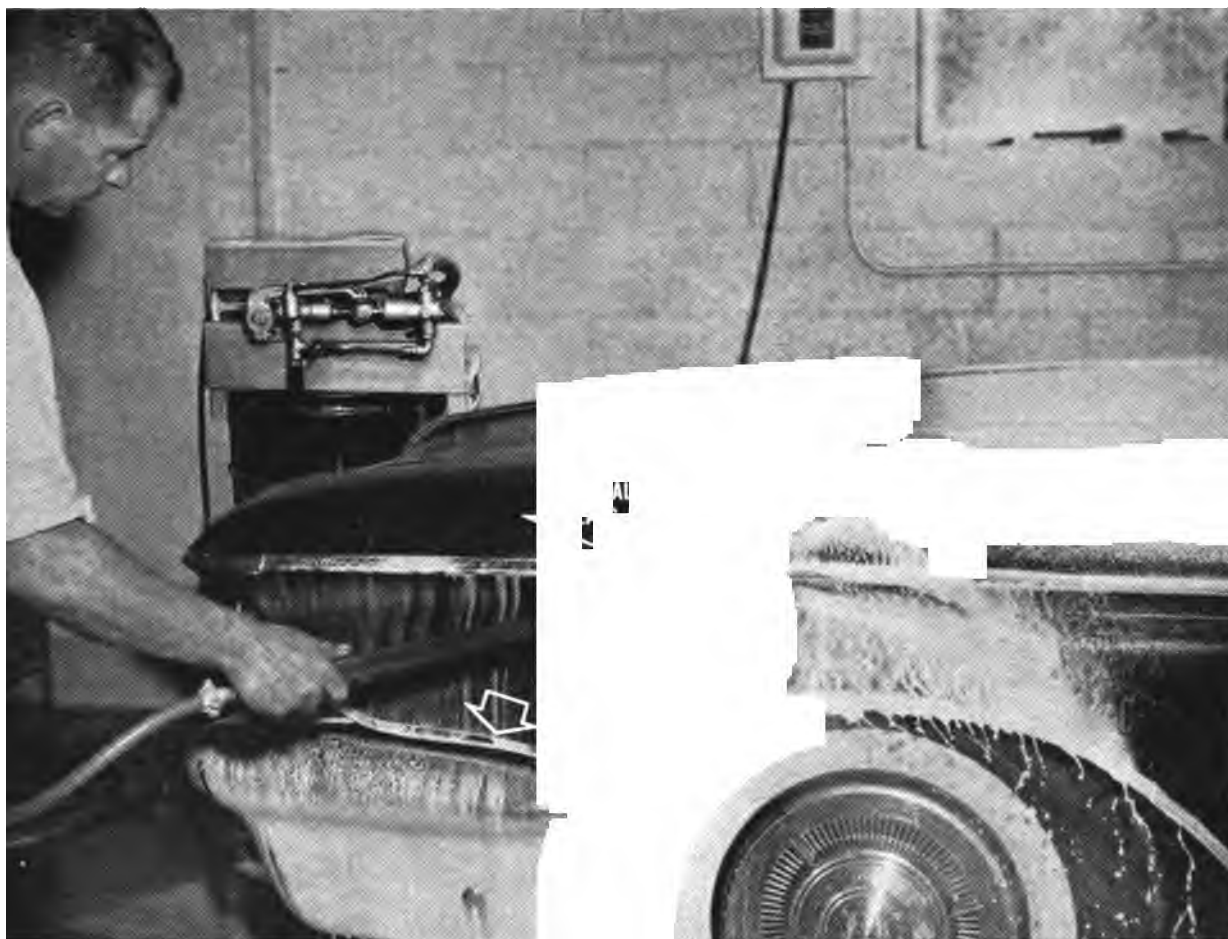
B. F. HUTCHINSON, 72, a former vice president and treasurer of Chrysler Corp., died recently.

Mr. Hutchinson joined the Chrysler Corp. in 1921 and was an associate of the late Walter Chrysler. He later became president and treasurer of the company and assumed the same post when Chrysler was formed in 1925.

He also served as chairman of Plymouth Motor Corp., as president of De Soto Motor Corp. and vice president of Dodge Brothers Corp. He retired in 1954.

HENRY B. SIROTEK, III, of Auto Electric Co., died last month. He was one of the co-founders of the Assn. of Diesel Specialists and served as its second president from 1959 and 1960.

LT CORROSION IS BAD BUSINESS; MAKE IT GOOD BUSINESS FOR YOU!



ny® Multi-Job Washer de-salts and de-ices

For winter wet-wash jobs by offering your customers the protection they need from salt corrosion. It can't de-salt a dirty surface. That's why Multi-Job Washer's warm high pressure detergent action is a real satisfactory answer. It flushes away salt-dirt from deep between joined surfaces, from trim, and from other hard to reach areas. It leaves all surfaces completely clean, and safe from salt corrosion. *Saves your customers money; makes money*

For only \$349, the Multi-Job Washer is NOT a cleaner. It is a year-around money maker. Cleans for \$5 to \$6; washes cars; cleans parts, equipment, etc. Use it inside or out, winter or summer. No flames, no fogging—because it's ELECTRIC HEATS solution up to 180° F. at 300 lbs. pressure. For full information and free demonstration today.



ESTEAD VALVE MANUFACTURING COMPANY

Hypressure Jenny Division, Coraopolis, Pa.

In Canada: Hypressure Jenny Sales & Service, Ltd.,
517 Jarvis St., Toronto 5, Ont., (C.S.A. Approved)

FREE WINDOW POSTER!

No obligation. Simply mail coupon. Big 20 x 27 1/2", full-color sign helps you sell wet-washes.



Please send me (check one or both)

- ☐ Information and arrange demonstration of Multi-Job Washer.
- ☐ FREE Wet-Wash Window Poster—no obligation.

Name..... Title.....

Company.....

Address.....

City..... Zone..... State.....

DUAL WHEEL ADAPTERS

FOR ANY 1/2, 3/4, 1 TON TRUCK



COMPLETE
WITH
FENDERS

DOUBLES TRACTION—
ASSURES STABILITY
USES SAME SIZE TIRES
AND WHEELS
ADDS TO APPEARANCE—
EASY TO INSTALL
LOADS AND TOWING TRAILERS
MADE 100% SAFER
SATISFACTION GUARANTEED
OR MONEY REFUNDED

Set No.	Make and Size	Dealer Cost
CG556F	Chev. 1/2 Ton	\$37.50
CG658F	Chev. 3/4-1 Ton	45.00
D455F	Dodge 1/2 Ton	37.50
D658F	Dodge 3/4 Ton	45.00
F555F	Ford 1/2 Ton	37.50
F658F	Ford 3/4 Ton	45.00
I455F	IHC 1/2 Ton	37.50
I7256F	IHC 3/4 Ton	45.00
W555F	Willys All	37.50

Used by Sportsmen—Farmers—Contractors—
Camper Haulers—Small Wreckers—Pulling
Trailers—Utilities—Hauling Livestock—
and others. Order from your jobber or
truck equipment distributor. Write for
Catalogues and Literature.

Also Manufacturers of the World's
Most Complete Line

DUALMATIC "Selective Drive" HUBS



Easy to Install
Simple to Operate
One Year Guarantee
40 Models Available

Dealer's cost in lots of three, Willys and
IHC Scout, \$37.50 per set. Others to 1 ton,
\$42.50 per set. Stocked by over 5,000
jobbers and 100 warehouses. Free chrome
demonstrator available to dealer on 3 set
order. Write for catalogue and price sheet.

DUALMATIC
P.O. BOX 419 LONGMONT, COLORADO



FOR ALL
4-WHEEL
DRIVE
TRUCKS

Mark X Jaguar Unveiled



Succeeding the Mark IX, this new
Mark X Jaguar bowed in England.
Powered by a 265 hp, 6 cyl. en-

gine with double overhead cam-
shafts, car also has independent
rear suspension and disc brakes

Ford's New Fairlane Bows

continued from page 53

The 221 cu. in. V-8 departs from
previous Ford designs as the result
of engineers' efforts to achieve min-
imum weight, size and cost. The
crankcase structure ends at the
crankshaft center line, in contrast
to the usual Ford Y-block construc-
tion. Water jackets do not extend
the full length of the cylinders.

External balance sectors are in-
corporated in the crankshaft pul-
ley and flywheel. Adding these bal-
ance weights makes it possible to
use smaller counterweights on the
crankshaft, cutting down engine
width and height.

With the exception of the die-
cast aluminum front cover, all
structural parts of the engine are
cast iron. A newly developed thin-
wall casting process makes it possi-
ble to produce sections of uniform
thickness. Since it is unnecessary to
provide extra metal as protection
against core shifting, walls may be
cast only as thick as necessary for
adequate strength. The V-8 engine,
therefore, weighs only about 75 lb.
more than the 6.

Valve Train New

The valve train is new to Ford.
Individual rocker arms pivot on
balls attached to studs pressed into
the head. Rockers are lubricated
by oil which flows from the hy-
draulic lifters through hollow push
rods. To prevent hot spots and pos-
sible head distortion, valves are ar-
ranged so that no two exhausts are
next to each other. Valve guides

are integral in the cylinder head.

Combustion chambers are wedge-
shaped: The 8.7-to-1 compression
ratio permits operation on regular
fuel. Ports for the 18 mm spark
plugs are located toward the outer
edge of the chamber between the
two valves.

The two-barrel carburetor is
mounted on top of a water-heated
aluminum spacer. Water flowing
to the heater inlet passes around
the carburetor throats to prevent
icing. Additional heat is supplied
by exhaust gases passing through
the intake manifold cross-over pas-
sage at all times. There is no mani-
fold heat-control valve. An auto-
matic choke is standard.

The cooling system has a capac-
ity of 14 1/2 qt. with heater and is
filled at the factory with
coolant said to be effective for
1000 miles.

Have New Interlock

Manual transmissions are similar
to those used on other Fords and
incorporate the new interlock to
prevent shifting into first or reverse
unless the clutch is completely dis-
engaged. Overdrive is available on
V-8's only. The two-speed Fordo-
matic transmission is optional on
all models.

Rear axle ratios with the 6 cyl.
engine are 3.50 to 1 with manual
transmission and 3.25 to 1 with au-
tomatic. With the V-8, ratios are
3.25 to 1 with manual drive, 3.50 to
1 with overdrive and 3.00 to 1 with
automatic.

Standard tire size is 6.50 by 15.
Larger 7.00 by 14 tires are optional.

Self-adjusting brakes, with lining

[CONTINUED ON PAGE 142]



Scotch[®] No. 33 Electrical Tape BRAND

...now in a
convenient
new
dispenser!



3M AUTOMOTIVE PRODUCTS GIVE THE
RIGHT START TO A PERFECT FINISH



Yes, the original plastic electrical tape, "SCOTCH" Brand No. 33, is now even easier to use in this free, handy tape-saving dispenser.

Dispenser helps protect tape from soiled, greasy hands . . . makes a better job. Tape unwinds easier, cuts quicker. New larger $\frac{3}{4}$ " x 44" size gives you more tape per roll...more tape for your money.

Splicing, wrapping, insulating, protecting . . . use the convenient new SHOP PAK dispenser of "SCOTCH" Brand No. 33 Electrical Tape. FIRST . . . and still the best.

"SCOTCH" IS A REGISTERED TRADEMARK OF 3M CO.,
ST. PAUL 6, MINNESOTA

Electrical Products Division **3M**
COMPANY

Ford's New Fairlane Bows

continued from page 140

area of 165 cu. in., are standard, and power brakes are optional.

The steering gear is the recirculating-ball type. A flexible coupling above the gearbox decreases the amount of vibration transmitted through the steering column, compensates for minor misalignment and simplifies service. Linkage-type power steering is available on all

models except 6's equipped with manual transmission.

Front suspension is similar to the type used in Falcon and Thunderbird. Coil springs and shock absorbers are mounted above the upper control arm. A rubber-mounted strut rod controls fore-and-aft movement of the wheel. The lower control arm is also isolated from the body structure by rubber.

Rear springs are 55 in. long and have large rubber bushings in the front eye to prevent transmission of road shock and noise into the

body. Shock absorbers are mounted.

The Fairlane chassis lubrication at 30,000-mile interval. The same mileage recommendation applies to front wheel bearings, which are packed with grease containing molybdenum disulfide.

To reduce noise and ride harshness—two items which are critical in a unitized body—large box-section structures torque boxes are incorporated into the body, immediately behind the front wheels and just in front of the rear wheels. The two torque boxes connect the front rails to the box-section rocker panel and rails. The torque boxes, however, are not attached to the floor pan. When the car rolls over rough or uneven roads, the force of impact is transmitted through the side rails to the torque boxes, where it is largely absorbed before reaching the passenger compartment. Any twisting of the body caused by uneven surfaces is absorbed by the torque boxes. Engine mounts are also attached to these structures to isolate engine vibration. The mounts themselves are rubber-cushioned leaf springs.

Absorb Twisting Force

For structural reasons, the torque boxes are attached to the floor pan. While they absorb twisting forces, they do not isolate harshness as effectively as the coil springs. This job is accomplished by the large rubber bushing in the spring eye.

Rocker panels and other body parts subject to corrosion are made of galvanized steel. Zinc primer is applied to the inside of large panels and other parts to make the use of galvanized steel more practical.

THE END. NOW TURN BACK TO PAGE 140.



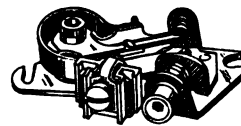
Superior performance comes from many things. Take Pre-Assembled Point Sets by GUARANTEED PARTS: We make them with *stainless steel* contact springs to prevent corrosion which might otherwise impair spring action and conductivity.

Our unique fulcrum pin design prevents excessive end play, ride-up or binding...assures permanent contact alignment.

These things, plus ventilated tungsten points with a 99%(+) purity, and precision fitted phenolic bushings are the extra measures that make the word "Quality" mean something with GUARANTEED PARTS. See your GUARANTEED PARTS Distributor, or write . . .



GUARANTEED PARTS CO., INC.
SENECA FALLS, NEW YORK



**POINT SETS
FOR ALL SYSTEMS**

Ramco Contest Winner

First-prize winners in the "winning Ring" contests are Melton, Fairhope, Ala., and now Garrick, Southern Auto Mobile, Ala. Each has a 1962 Corvair Monza or Rambler American station wagon. In addition, 200 other prizes given to contestants.



Used seals are for the birds!

ace with National... the only line that can match any seal you pull!

complaints on wheel bearing jobs by pulled seals every time. Even if the seal l, it can allow dirt to creep in and lubri- keep out. So give your customers some e insurance by replacing with National e you pull a wheel. National has virtually and size of seal you'll ever need. They're

made in both Micro-Torc® leather and Syntech rubber to give you the right seal for any job. Metal parts are phosphate coated to improve rust-resistance. Call your National Seal jobber now for immediate delivery on the best... from the one *complete* line. You'll find that the service you get is just as thorough and complete.



NATIONAL OIL SEALS

FEDERAL-MOGUL SERVICE

DIVISION OF FEDERAL-MOGUL-BOWER BEARINGS, INC. • DETROIT 13, MICHIGAN

Here's ready-made **FIRST AID** **FOR SLIPPERY FLOORS!**



AUTO-DRI... is an economical prescription against accidents. Your broom brigade easily spreads this carpet-of-safety on with rake or broom... the thirsty granules instantly soak up oil, grease, liquids... pull deep deposits out of floor. Leave AUTO-DRI on, or remove and reuse until saturated. AUTO-DRI is mineral... won't burn. Costs only a fraction of a cent per sq. ft. of protection!

Write for
generous
FREE
SAMPLE



MINERALS & CHEMICALS PHILIPP CORPORATION
210 ESSEX TURNPIKE MENLO PARK, NEW JERSEY

U.S. Vehicle Sales

January-August, 1961-60

As counted by R. L. Polk and Co.*

Passenger Cars

	Position		Total Retail Sales for First 8 Months		Per Cent of Grand Total of Retail Sales	
	1961	1960	1961	1960	1961	1960
GENERAL MOTORS			1,748,929	1,947,787	49.2	47.2
Chevrolet	1	1	1,039,873	1,175,554	29.2	28.5
Pontiac	4	5	233,317	271,515	6.6	6.8
Oldsmobile	6	7	200,100	229,827	5.6	5.5
Buick	7	8	184,581	172,509	5.2	4.2
Cadillac	10	10	91,058	98,382	2.6	2.4
FORD			1,102,845	1,148,872	31.0	27.8
Ford	2	2	881,770	944,556	24.8	22.9
Comet	9	11	123,585	87,169	3.5	2.1
Mercury	11	9	78,743	102,574	2.2	2.5
Lincoln	14	14	18,747	14,573	0.5	0.3
CHRYSLER			416,251	632,478	11.7	15.4
Plymouth	5	3	200,556	312,367	5.6	7.8
Dodge	8	6	149,887	256,857	4.2	6.2
Chrysler	12	13	58,974	52,791	1.7	1.3
Imperial	15	15	6,834	10,463	0.2	0.3
AMERICAN MOTORS			237,926	296,005	6.7	7.2
Rambler	3	4	237,926	296,005	6.7	7.2
STUDEBAKER			44,609	76,276	1.3	1.8
Miscellaneous			5,267	24,859	0.1	0.6
TOTAL			3,555,827	4,126,277		

Trucks

	Total Retail Sales for First 8 Months		Per Cent of Grand Total of Retail Sales	
	1961	1960	1961	1960
CHEVROLET	198,961	220,098	33.3	33.7
FORD	192,434	194,824	32.2	29.9
INT. HARVESTER	72,543	77,063	12.2	11.8
GMC	44,640	56,411	7.5	8.7
DODGE	26,671	29,462	4.5	4.5
WILLYS	18,312	19,131	3.0	2.9
Truck	11,028	12,432	1.8	1.9
Jeep	7,284	6,999	1.2	1.6
WHITE	8,895	10,563	1.5	1.6
MACK	5,917	7,881	1.0	1.2
STUDEBAKER	3,627	3,616	0.6	0.6
DIAMOND T	1,247	1,887	0.2	0.3
BROCKWAY	617	772	0.1	0.1
Miscellaneous (Domestic and Foreign)	23,027	30,855	3.9	4.7
TOTAL	596,891	652,563		

*Connecticut figures for April-August, 1961, not included

Will Discuss Used Car Management

C. J. Staufenbeil, Cadillac Motor Car Div., will head a used car presentation at the annual National Automobile Dealers Assn. convention to be held in Atlantic City, Feb. 3-7. The program, set for Feb. 4, will include a panel of three dealers.

REMOVE BEARINGS FROM FLANGE AXLES **EASILY!**

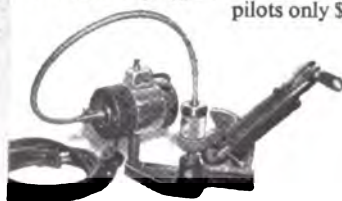
Remove and replace flange axle bearings quickly and easily. Remove and install Timken bearings without damage. The Wi-To-Co Axle Bearing Fixture lists at only \$44.50!

REMOVE AND INSTALL "PRESS FIT" PISTON PINS

When pins become loose just hone old rod and piston to next oversize and press in oversize pin with the Wi-To-Co Pin Fitter. It aligns piston rod, and pin for easy "straight-in" installation. Only \$45.38 List Complete.



GRIND VALVES QUICKLY, ACCURATELY—Grind valve seats with the greatest possible accuracy with the Wi-To-Co Feather-Touch Valve Seat Grinder. Equipped with conventional pilots only \$193.60 List.



WINONA
WINONA, MINNESOTA

TOOL MANUFACTURING CO.

Manufacturers of the WI-TO-CO IN-
THE-BLOCK CRANKSHAFT GRINDER

Imported Vehicle Sales

10 Leading Makes

January-August, 1961-60

As counted by R. L. Polk and Co.*

1961		1960	
Volkswagen	117,673	Volkswagen	100,056
Renault	28,638	Renault	48,901
Fiat	8,484	Opel	20,026
Mercedes Benz	8,043	English Ford	19,127
Triumph	7,542	Fiat	15,810
Volvo	7,342	Triumph	12,711
English Ford	7,318	Austin Healey	12,192
Austin Healey	6,311	Simca	11,739
Metropolitan	6,178	M. G.	9,879
A. G.	6,142	Mercedes Benz	9,431
All others	52,565	All others	91,058
TOTAL	256,235	TOTAL	350,930

*Connecticut figures for April-August, 1961, not included

Faulty Rear Lights No. 1 Unsafe Item in Cars

Of the more than 3,500,000 vehicles examined in the 1961 National Vehicle Safety-Check Program, held in May and June, one of every six cars was found to have at least one unsafe item. The program is co-sponsored annually by the Auto Industries Highway Safety Committee and *Look* Magazine, with the cooperation of the Assn. of State and Provincial Safety Coordinators.

For the seventh consecutive year, rear lights headed the list of items needing service attention for safe driving. Of all the passenger cars failing inspection, 26.5 per cent had defective rear lights and 6 per cent had faulty rear turn signals.

Defective front lights were found on 16.3 of the cars failing inspections, while 6.4 per cent had faulty front turn signals. Thirteen per cent had unsafe brakes, 8.4 per cent defective exhausts, 6.9 per cent unsafe tires, 5.2 per cent faulty steering and 4.9 per cent defective windshield wipers.

Can You Name It?



Balloon tires were the latest thing when this touring car was introduced. Famous for performance, this make was powered by a straight 8 engine with bore and stroke of 3 1/8 by 4 1/4 in. Powerplant was claimed to be flexible enough to give high-gear speeds from 1 to 70 mph. Price of this model was \$1,895. Do you know the make and year. The answer is on page 183.

OTOR, November 1961

For CAR-STARTING
power in any weather

ESStron BATTERY CHARGER



ESStron battery chargers have come where it counts in silicon rectifiers, silicone and polyurethane insulation, mechanical timers, rugged construction clear through. Costs are low because unnecessary frills are omitted.

**Warehouses
Throughout
United States
And Canada**

1. WS-100 MOBILE CHARGER has 100/60 amp capacity at 6/12 volts. 9-position switch provides voltage and charge rate selection. Timer is hermetically sealed. Wheels have oilite bearings. UL and CSA approved.



2. PS-100 PORTABLE CHARGER has same 100/60 amp capacity and other quality features of WS-100 above. Charges a 6 or 12-volt battery in an hour or less.

3. PS-35 SUPER-CHARGER has no moving parts. Full-wave silicon rectifiers are convection cooled. Charges 35 to 40 amps on either 6 or 12 volts.



4. SATI-LITE is a fast-selling charger for home use. No meters, no switches, no circuit breakers. Charges batteries of any voltage . . . 6, 12, 18, or 24 volts.



*For 25 years ESStron battery chargers meant efficient, low-cost battery maintenance. Now they are better than ever. New models, with charging rates from 1 to 100 amps, meet all needs.

ELECTRIC SERVICE SYSTEMS
1350 QUINCY ST., MINNEAPOLIS 13, MN

Service Simple On 1962 Buick Special

continued from page 55

cept those equipped with the high-performance V-8 engine and automatic transmission, which require an advance of 10 deg.

The V-6 distributor has an L-shaped rotor tip, which permits the use of evenly spaced contacts in the distributor cap, despite the fact that points open at uneven intervals. The leading and trailing

edges of the rotor alternate in making contact. When the distributor is being positioned to fire No. 1 cylinder, the center line of the rotor tip must line up with the notch in the distributor body. The notch, in turn, must be directly above the joint between the cylinder block and timing chain cover, facing toward the left side of the engine.

Unlike those of the aluminum V-8, spark plugs in the V-6 are of standard reach. Plug gap is .035 in. Except for the differences covered previously, tune-up procedure

for the V-6 engine is conventional.

Like the V-8, the V-6 is equipped with a Rochester 2GC carburetor. However, there are differences in calibration and in the construction of the idle system, so carburetors are not interchangeable. Proper positioning of the snorkel tube of the air cleaner is important to maintain the proper fuel-air ratio. Some air cleaner housings are marked "Front," while others are unmarked. In any case, the snorkel should point approximately 45 deg. to the left and pass over the left side of the distributor. The polyurethane element should be cleaned every 8,000 miles.

At first glance, the V-6 appears to have no fuel filter. There is one, however, located in the carburetor fuel inlet. It should be cleaned or replaced every 12,000 miles.

Disconnect Fuel Line

To remove the sintered-bronze element, disconnect the fuel line at the carburetor, remove the filter and gaskets and hold a hand over the fuel inlet to catch the filter and spring as they are released. Clean the filter in solvent and dry with a reverse flow of air. Replace the filter if it cannot be cleaned satisfactorily. When reinstalling, be sure that the open end of the element is pointing outward.

While the V-8 engine has a water-heated intake manifold, the new V-6 uses exhaust heat, controlled by a thermostatic valve at the rear of the right exhaust manifold. To test the calibration of the thermostatic spring, remove the anti-rattle spring, then unhook the outer end of the thermostat spring from its anchor and hold the valve closed. At room temperature, the spring should unwind approximately one-half turn. Buick recommends that the heat control valve shaft be lubricated every 1,000 miles with special lubricant.

Valve Guides Integral

Cylinder heads of the V-6 are interchangeable from right to left. Valve guides are integral. Specified intake valve clearance in the guide is .0005 in. at the top and .001 in. at bottom. For exhaust valves, clearances are .001 at top and .0015 at bottom. If stem-to-guide clearance is excessive, guides

[CONTINUED ON PAGE 148]

Have you checked lately on what you spend for outside press jobs?

Add up what you now spend for outside press jobs—including the hidden cost of having work delivered and picked up. Then compare this with the cost of owning an ACCO Hydraulic Press. You'll soon discover you would be money ahead with an ACCO press in your own shop for straightening, parts removal, or any one of many repair jobs. And, you'll find that on a "cost per day" basis an ACCO Hydraulic Press is a profitable investment.

Here are just a few of the superior engineering features and advantages which ACCO Hydraulic Presses offer:

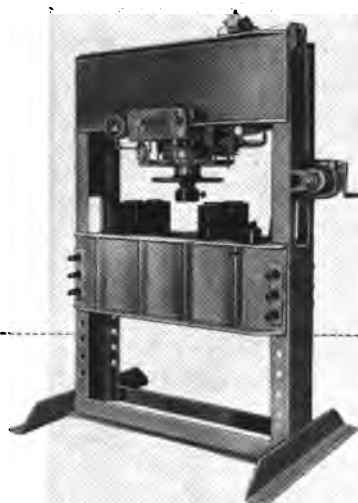
- Available in 25, 40, 60, 80 and 150 ton capacities
- Air or manual operation, or a combination
- Units to convert from manual to air operation
- Safety valve in oil line prevents overloading
- By-pass prevents over-extension of ram
- Depth gage accurately indicates ram movement
- V-type packing reduces friction

For complete information, contact your ACCO Equipment jobber. If you don't know his name, write us at York, Pa.

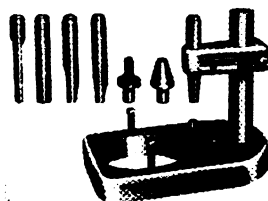


ACCO HYDRAULIC PRESSES

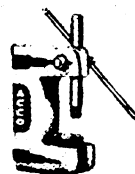
Acco Equipment Division • American Chain & Cable Company, Inc.
York, Pa., Chicago, New York, Denver, San Francisco, Bridgeport, Conn.



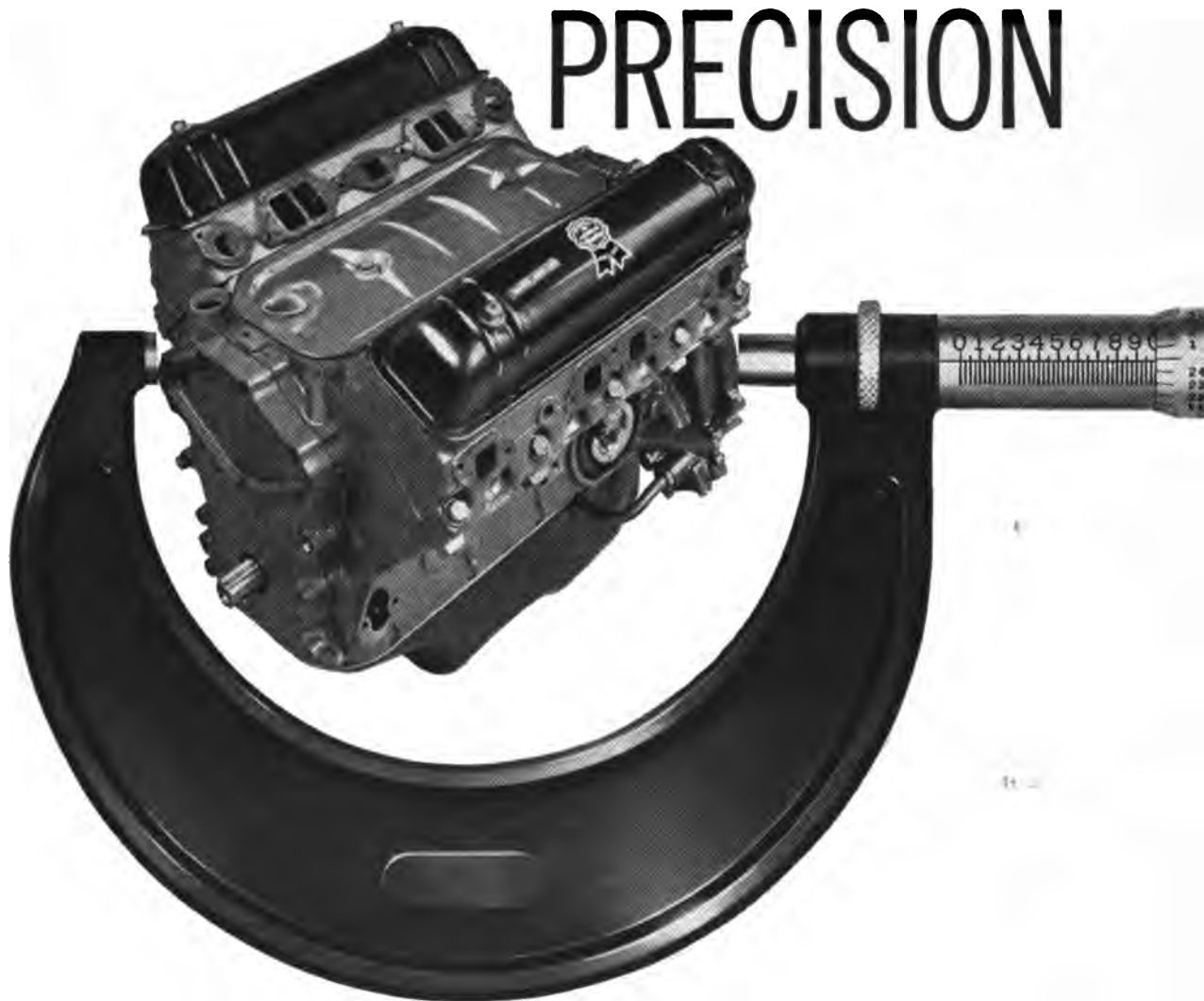
Universal Test Centers
For checking run-out of shafts and axles



Rivet Upsetting Tool
For hot and cold rivet upsetting



Auxiliary Arbor Press
3-ton capacity
... For light jobs...
Available with all models



THEY'RE NOT AS GOOD
AS NEW . . .



Precision checking of each machining and assembly operation—performed by skilled technicians—is the reason for the quality of Ford Authorized Reconditioned engines, transmissions and small parts. These are the *only* products remanufactured to Ford Motor Company specifications. They carry the Authorized Reconditioners Seal . . . your assurance of good-as-new quality from the inside out.

Your Ford dealer is the source for the complete line of Ford Authorized Reconditioned engines, transmissions and small parts. Every one you buy is built for service . . . priced for savings.

There is no finer replacement unit. Your Reconditioners' Warranty proves it.

See your local Ford Dealer

THEY'RE NOT
FORD AUTHORIZED

**FOR THE COMPLETE LINE OF FORD AUTHORIZED RECONDITIONED
ENGINES • TRANSMISSIONS • SMALL PARTS**

Service Simple On 1962 Buick Special

continued from page 146

should be reamed to .005 in. over-size and valves of the same oversize installed.

Piston pins are offset .040 in. from center to reduce side thrust on the cylinder walls. For this reason, it is important to install the piston and rod assembly correctly in the block. The oil spurt hole in the lower part of the rod should al-

ways face up. The notch on the crown of the piston should point toward the front of the engine.

Instead of the one-piece stamped steel gasket and valley cover used on the V-8, the V-6 has separate gaskets for each side of the manifold where it joins the cylinder head. When installing the manifold, first place new rubber manifold seals on the front and rear of the block. Then set the manifold on top of the block and start two manifold-to-head guide bolts in each bank. With the side marked

"Up" on top, slip the manifold gasket between the manifold and head so that the two U-shaped openings fit over the guide bolts. Install the rest of the bolts and torque to 25-30 lb.-ft.

Do not coat manifold gaskets or cylinder head gaskets. Cylinder-head bolts should be lubricated with thread sealer, while bolts entering the aluminum timing chain cover should be coated with thread lubricant.

Whenever the timing chain cover or oil pump cover is removed, the oil pump must be primed by filling all gear cavities with petroleum jelly, just as in the V-8.

Camshaft New

The latter engine is basically the same as this year's. One change affecting service is the use of a new camshaft with a larger base circle. As a result, push rods have been shortened. Do not try to use 1962 push rods in a 1961 engine or vice versa.

A positive-traction differential is now optional on the Special and can be identified by a plate at the filler plug or by an X in a circle stamped on the bottom edge of the carrier-housing flange. According to Buick, only special lubricant designed for these axles should be used, whether refilling or adding.

A four-speed manual transmission is optional with the V-8 engine only. Oil capacity is 2½ pt. The side cover can be removed without taking the transmission out of the car, permitting inspection of gears and other parts. To remove the cover, first drain lubricant, then disconnect first, second, third and fourth shift rods from their levers. Remove the attaching bolts and take off the side cover. With the cover off, shifter shafts can be removed. When replacing the side cover, use sealer on the rear attaching bolt in the bottom row.

Compressor Serviceable

Air conditioning is again offered as optional equipment on the Special. A new 6 cyl. compressor can be serviced in the field, making it unnecessary to replace the entire unit. A special jig and tools are available for repairing the compressor.

THE END. NOW TURN BACK TO PAGE 56



FIRST CLASS

In any language, "FIRST CLASS" means tops . . . the best there is.

We work hard to make our ignition parts that way because we must have the complete confidence of those who install TUNGSTEN Ignition Parts and those who sell TUNGSTEN Ignition Parts.

As a result, TUNGSTEN Ignition Parts are always engineered to produce "FIRST CLASS" jobs with fewer re-do's and fewer headaches.

If you are not using TUNGSTEN Ignition Parts now, we suggest you contact your TUNGSTEN Distributor. He'll be glad to talk TUNGSTEN to you.

Write for catalog

TUNGSTEN CONTACT IGNITION

 **TUNGSTEN CONTACT MANUFACTURING CO., INC.,**
North Bergen, New Jersey



Will he stop in time?

Did you know that, although it takes **ONE MINUTE** for a 100 horsepower engine to accelerate from 0 to 60 mph, brakes must be capable of decelerating from 60 to 0 mph in **SIX SECONDS**—equivalent to 1000 horsepower.

American Brakeblok—producer of America's safest, quality brake lining—has been working closely with highly skilled engineers of the automobile industry who are constantly seeking a brake lining that will stop a car faster and with greater safety, for thousands of miles longer.

Its research center, staffed with heat, wear

and friction specialists and equipped with the most modern development facilities, is constantly developing a wide range of materials that give automotive designers greater freedom in drawing specifications.

These materials, thoroughly tested and proven, are available to meet the most rigid braking requirements of modern automobiles and trucks. Do your customers a real service—by making their driving far safer—install American Brakeblok, America's **SAFETY** brake lining. Riveted and bonded exchange—from your NAPA Jobber. Call him now!



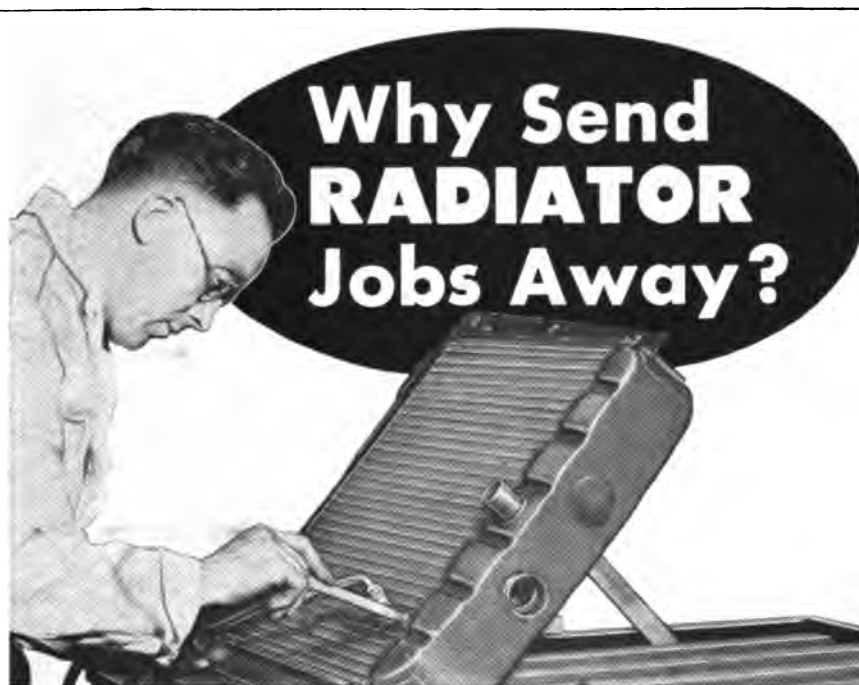
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P. O. BOX 21 • BIRMINGHAM, MICHIGAN

Promotes Accessories for Christmas

This window display, used last year by Angelus Chevrolet, Highland Park, Cal., was keyed to theme, "Auto accessories make excellent Christmas gifts!" Gift-wrapped packages and special decorations created holiday atmosphere.

Angelus Chevrolet of Highland Park, Cal., set up this display



Add an extra \$8,000, \$12,000, \$15,000 a Year SERVICING RADIATORS!

Now, the world's largest radiator servicing equipment manufacturer offers the complete package: Equipment, merchandising, "Pays-for-Itself" payment plan, complete factory school (free training for you or your man).

And Radiator Servicing produces top profits, quickly!


"\$900 Monthly Average", first 4 months—M. J. Wilson Co., Shelbyville, Ill.

"\$13,500 First Year",—Automotive Service Co., New Castle, Ind.

"\$800 Monthly Average", first 7 months—Walterboro Auto Parts, Waterboro, S. C.

FREE! Mail coupon today for Inland's New "Blueprint for Profits", a 32-page booklet showing various shop combinations. Tells exactly what you'll need to set up a complete radiator servicing dept. Gives prices, outlines "Pays-for-Itself" plan, describes experiences of others.

INLAND MFG. CO., Dept. M-11, 1108 Jackson St., Omaha 2, Nebr.



Mail Coupon Now!

INLAND MFG. CO., Dept. M-11, 1108 Jackson St., Omaha 2, Nebr.

Please send new free book, "Blueprint For Profits."

FIRM _____ (PLEASE PRINT)

ADDRESS _____

CITY _____ ZONE _____ STATE _____

BY _____ TITLE _____

If dealer, make of car sold _____

Are you now operating a radiator dept.? ☐ Yes ☐ No

Is Volume Selling Always Fatal?

continued from page 39

the six-month period. X is one of 28 Dodge dealers in the territory. This means his 27 competitors split the rest of the business, 1,685 cars (subtract X's 1,593 closings from the 3,278 total), among them. It figures out to a fraction over 62 cars per dealer. If X had not been in business and his deals had been divided evenly among other Dodge merchants, each would have sold an additional 59 cars.

Rambler: X sold 1,928 cars. In this instance each Rambler dealer would have delivered an extra 49 units over the six-month interval if X had not been in the picture.

Chevrolet: X registered 2,150 vehicles, outstripping the leading Chevrolet franchise holder (874 sales) by almost two-and-a-half to one. Chevrolet is represented by 40 authorized dealers in the area and X's 2,150 deliveries would have yielded a plus of 53 deals per franchised outlet.

Supply Lines Local

The bootlegged merchandise comes, of course, from franchised dealers, local ones. Any dealer who feels he is being hurt by X's activities can sleuth out the enemy's source of supply by sending a shopper over to X's plant to jot down the information on the windshield stickers.

Suppose a dealer were to do just that and forwarded the information to Detroit. What action would the factory take? What is Detroit's current attitude on bootlegging?

Car makers prefer to distribute

ugh franchised channels, if for
ther reason than that it en-
them to exercise a faint voice
ie marketing of their wares.
if a dealer bootlegs and is
at it, even with booty in
, there is precious little the
ry can do. The hardest blow
nanufacturer can strike is cut
nents to the bootlegger, but
this must be done surrepti-
ly.

ie usual ruse employed in such
iation is for the factory to pre-
the dealer's order was mislaid,
excuses that the shipment
astray or plead a shortage of
component. Putting a plain
on it, Detroit is not in a legal
ion to do anything about boot-
ng.

the bootlegging charge won't
why isn't X canceled on the
nds that his service facilities
nadequate as called for in his
act? Again, putting a plain
on it, why would a factory
l a proved producer, especial-
a time when experienced re-
ments are virtually unobtain-

Would you fire a man mov-
0 cars a day?

No Customer Complaints

en if Detroit were to take a
mercenary view, none of the
al companies that X repre-
has any evidence of his having
l his service obligations. The
mers aren't complaining.

ie most surprising aspect of
operation is that he seldom
against other dealers; hence he
le to command higher prices.
ects go to him direct without
ping elsewhere. Many of his
mers, as revealed by registra-
figures, travel upward of 40
to buy from him. No count
een made on the number of
eting car sellers they pass en

at's the explanation?

Pounds Simple Theme

aler X has two things going
him. One is advertising. The
d is a state of mind.

advertises heavily on televi-
uses radio and newspapers to
er degree. He pounds a sim-
theme: Supermarket. He claims
ave the largest, most varied
in the area, as indeed he does
His "showroom" covers sev-

eral acres on which he displays lit-
erally hundreds of automobiles.

He stresses the point that a su-
permarket setup, like the oversize
grocery store from which the name
was derived, makes its money on
volume. This is not quite the same
as claiming to have the lowest prices
in town. But the insinuation is
there.

The idea that has been estab-
lished in the public mind—not by
Dealer X alone but by merchants
in all lines, from clothing to cake
pans, from cameras to ceiling tile—

is that a mass display is synor
with low prices, that volun-
discount are equivalents. It
not necessarily true, and in
it is specifically untrue.

But X has seized on the i
and merchandised it to th
The customer who comes i
car with another dealer's stic
it on X's lot regards it as co-
tion of the volume-means-cu
theory. The idea has to be
the customer reasons, becau-
were not, the car would not

[CONTINUED ON PA

Valves at your fingertips...



- Tremendous initial sale of this Dispenser-Pak enables us to reduce the price from \$20.50.
- Contains 50 Snap-In Valves which means a dealer gross from \$37.50 up.

Puts valves where you want 'em, when you want them. Just reach a few inches from your tire changer and you have the two standard sizes of snap-in valves at your fingertips. An easy pull and you make up to 69¢ net profit.

The Dill Dispenser-Pak includes 50 valves, 30 T-151-R for 15" wheels and 20 T-13-R for 13" and 14" wheels. All valves packed in translucent tubes (10 to a tube) for visible inventory control.



Order No. 5254 from
your supplier.

Free 5-color mobile and
safety gage included.



Manufacturing Company
700 E. 82nd St. • Cleveland 3, Ohio
Offices in Los Angeles, Akron, and Toronto
Subsidiary of The Eaton Manufacturing Co.



Is Volume Selling Always Fatal?

continued from page 151

X's lot. The sticker-designated dealer would sell it himself.

X's venture is notable from another angle. He has put an excitement in his operation, a feel of come-and-get-a-great-deal, as opposed to the indifferent we-sell-cars-if-you-happen-to-be-in-the-market-to-buy approach of so many of 332 dealers he sells against.

What, if anything, can X's competitors do to combat his rebel retailing?

So long as franchised dealers continue to supply X's big store with cars, his unfranchised dealing in these makes will continue. X cannot be charged with engaging in any illegal activity in handling the products. The problem is a local one, created by local dealers. The solution, if there is one, can only come from the franchised dealers funneling cars out the back door.

The community's conventional

merchants have to catch on to the idea that the public mind has been conditioned to believe that mass display and low prices are first cousins. The easiest way to nail this error is to advertise honest prices and then invite the customer to compare supermarket prices versus non-supermarket.

Hit the wheel-and-dealer where it hurts—on service. Tell the customer the truth, service is part of the package and if he doesn't get it, he is being bunkoed.

Last but not least, borrow an idea from the rebels, from the Barnum boys, i.e., put some excitement back in the business.

THE END. NOW TURN BACK TO PAGE 40



BRAKE CYLINDER HONE

Your Best Buy — Here's Why

- This one hone handles all cylinders $\frac{3}{4}$ " to 2".
- Positive pressure adjustment gives you the right "bite" in all cylinder sizes.
- Hones to the end of step-cut and blind-end cylinders.
- Flexible shaft makes it easy to hone cylinders on the car.

Made by Lisle so you know it's the Best!



ASK YOUR JOBBER

Lisle

AUTOMOTIVE TOOLS
JEEPERS CREEPERS

BRAKE PARTS
BRAKE CABLES

AIRCRAFT
& AUTOMOTIVE
ORIGINAL
EQUIPMENT

LISLE CORPORATION • TOOL DIVISION • CLARINDA, IOWA

NEW ON THE JOB

At Car, Truck Factories

GLEN W. WARREN to owner relations activity of the Service Section of General Motors Corp.

JACK FREEMAN to director of profit planning for truck operations and W. H. LOVE to national field service manager, Dodge Div.

W. E. FORAKER to assistant general sales manager, Chrysler-Plymouth Div., and R. B. McCURRY to central marketing staff, Chrysler Corp.

WALTER R. MACKENZIE to manager of newly created Technical Projects Dept., Chevrolet Motor Div.

RICHARD O. THOMAS to executive vice president, Marmon-Herrington Co., Inc.

FRANK C. SILVEY to assistant general sales manager for parts and accessories merchandising and warehousing, Chevrolet Motor Div.

Two-Ply Tires Have Safety Shield

Firestone Tire and Rubber Co. has introduced a layer of red rubber between the tread and cord body of two-ply tires to warn motorists that their tires have reached the danger point. The safety shield also acts as a guide to retreaders, preventing damage to the cords when the tire is being buffed. Other innovations in the new tires include a new method of locking the beads into the tire, nylon reinforcement of the rayon cords and a new tread rubber.

Costs to Guide Car-of-Future Designers

continued from page 43

by a heavier flywheel in manual-transmission cars and by torque converter in models equipped with automatic drive.

The V-6 engine represents one approach to a problem which is becoming more serious as compression ratios and power output rise. Unlike the short, rigid V-8, the long, relatively flexible cylinder block of a 6 cyl. in-line engine has a tendency to bend slightly under firing pressure. In addition, the crankshaft twists, setting up torsional vibration. The result is noise and roughness in the engine and driveline. Even shorter than the V-8, the V-6 has the rigidity necessary to operate smoothly at the highest practicable compression ratios.

Available Tooling Used

In designing the new powerplants for the Chevy II, Chevrolet engineers recognized the importance of stiff bottom-end construction by providing five main bearings for the 4 cyl. engine and seven for the 6. These two new engines, incidentally, are of similar design and construction, differing mainly in bore diameter and number of cylinders. As a result, available tooling can be used to maximum advantage.

Ford has also recognized the problems of bending and torsional vibration in 6 cyl. in-line engines. The 144 and 170 cu. in. Falcon-Comet 6's have been equipped with vibration dampers and new center counterweights. Rear engine mounts are of a leaf-spring design, cushioned in rubber to prevent transmission of noise and vibration into the body.

Weight Held Down

New engine designs of all sizes and types will have two things in common—lightness and simplicity. Weight will be reduced in iron components by the use of improved foundry techniques which make possible the casting of wall sections of uniform thickness. It is no longer necessary to provide excess metal as a hedge against core shifting. By taking advantage of this proc-

ess, Ford has been able to hold the weight of the new V-8 used in the Ford Fairlane and Mercury Meteor to a mere 75 lb. more than that of the Falcon-Comet 6, a lightweight engine in its own right. Buick and Chevrolet have also cut the weight of their new powerplants by casting thinner sections wherever practical.

Although the future of the all-aluminum engine is cloudy at the present time, the use of aluminum components is expected to increase. The unexpectedly high production

costs of the B-O-P V-8's reportedly has caused General Motors to shelve plans for aluminum V-8's in at least two of their bigger cars. Although the small aluminum engine for the GM compacts and the aluminum-block 6's of Rambler and Chrysler Corp. continue in production, the industry has apparently adopted a watch-and-wait attitude toward future applications of this type. On the other hand, die-cast aluminum timing-chain covers, water-pump bodies, bell housings and

[CONTINUED ON PAGE 156]

EASY DOES IT!



You'll do every gripping job the easy way with a Channellock worksaver plier. Powerful parallel jaw grip... tremendous leverage... patented, smooth-working can't-slip adjustments.

Your choice of five jaw capacities: 1/2, 7/8, 1 1/2, 2 and 2 1/4 inches. *Be sure*

it's a genuine Channellock. Look for the trademark on the handle. Write for catalog showing complete line of pliers. Made Only By Champion DeArment Tool Company, Meadville, Pennsylvania.

Costs to Guide Car-of-Future Designers

continued from page 155

other parts are economical to produce and afford substantial savings in weight.

A definite trend toward greater simplicity is evident in the newer engines and should be welcomed by the repairman. Combining two or more parts in a single casting eliminates nuts, bolts and gaskets and reduces the chances of oil or

water leakage. Examples are the Falcon-Comet one-piece cylinder head and intake manifold and the timing-chain cover of the B-O-P V-8 and Buick V-6, which also acts as the oil-pump housing. Ford's new 221 cu. in. V-8 and Chevy II 4 and 6 employ the simplified ball-pivot type of rocker arm used for the past several years in other Chevrolet and Pontiac engines. Ford has also eliminated the often-troublesome manifold heat-control valve from all but its two oldest engines.

Simplicity and light weight are also the keynotes of the newer automatic transmissions. Just a few years ago, much of the engineering effort was devoted to making automatics smoother and more flexible, usually at the expense of greater cost, complication and weight. Sales figures showed, however, that whenever there was a choice of automatics in the same car, most customers chose the cheaper unit.

For 1962, Chevrolet has simplified and lightened its Powerglide transmission and dropped the complicated and expensive Turbo-glide. Chrysler has redesigned the TorqueFlite unit used with V-8 engines along the lines of the simpler and smaller TorqueFlite Six.

Has Price Advantage

In an effort to provide some of the convenience of an automatic transmission at a lower price, Rambler has introduced the E-Stick, an automatic clutch operated by engine oil pressure. The driver still changes gears manually but does not have to operate the clutch. Manifold vacuum modulates the clutch-apply pressure, according to engine load. A number of European automatic clutches, operating on different principles, have not found wide acceptance. Although the added refinement of the Rambler unit should enhance its chances of success, its appeal to the driver accustomed to an automatic transmission is limited.

This basic theme of simplicity extends to other components, as



keep 'em rolling with Stant Pressure Tester

Winter testing of radiator caps and cooling systems pays off big in customer comfort and good will. Leaks found fast save coolant and prevent emergency road repairs. Replacement *Stant* caps keep vehicles operating properly. Sell more cooling system parts and services to insure your customers' satisfaction. The more pressure testing you do . . . the more business results . . . *plus sales you would not otherwise enjoy!* Check your *Stant* cap stock now.

STANT MANUFACTURING CO., INC.
Connersville, Indiana

Ask your jobber for
Genuine STANT CAPS

Lev-R-Vent
Safety Cap
prevents
scalds



MOTOR SALES



"This demonstrator was used
solely by an elderly salesman
who never drove it fast!"

well. Two-ply tires, used in all of the compacts and some of the larger cars, are said to equal the load capacity of heavier, more expensive four-ply tires and to offer a softer ride and cooler running in the bargain. The single-leaf springs used by Chevy II are just about as simple as you can get in a suspension system.

Safety Not Overlooked

Another Rambler feature, which it shares with Cadillac, is one of the most important advances in driving safety to appear for several years. Dual master cylinders provide separate hydraulic circuits to front and rear brakes, preventing complete brake failure in the event of a leak. Widespread adoption of this, or similar, systems is almost a certainty because of other manufacturers' fears of being considered indifferent to safety. One positive step in the direction of safer cars was taken by the entire industry this year with the provision of seat-belt anchorages.

One of the strongest trends evident in the 1962 cars is the sharp reduction in frequency of lubrication and maintenance operations. Following the lead of Cadillac and Ford, a number of other makes have stretched chassis lubrication intervals to 30,000 to 35,000 miles or eliminated them completely. Ford makes and Rambler offer factory-fill coolants which need not be drained for two years. In most cases oil-change intervals have been extended, with Ford products topping the list with a recommendation of 6,000 miles.

Repairs Still Needed

One point which has been largely overlooked in the publicity over less-frequent lubrication and maintenance operations is the fact that little has been done to affect the frequency of actual mechanical repairs. Plugs and points will still have to be replaced at about the same mileage as before. Brake linings will continue to wear out. Front ends will still need alignment. In short, a few sealed lube points will not put the repairshop out of business.

These, then, are the trends. They point to simpler, lighter automobiles, requiring less frequent lubrication and routine maintenance.

They also illustrate the new-found flexibility of the industry, making possible rapid development of new components and even complete new cars to suit the changing market. The ability and, equally important, the willingness, to depart from conventional practice is producing the most original engineering we have seen for years. Given a free hand, the engineer will put function ahead of fashion in tomorrow's cars. The results will be worth watching.

THE END. NOW TURN BACK TO PAGE 48

Win Merchandising Awards

Four automotive firms won first prizes in the second annual Merchandising Awards Competition staged by the Point-of-Purchase Advertising Institute.

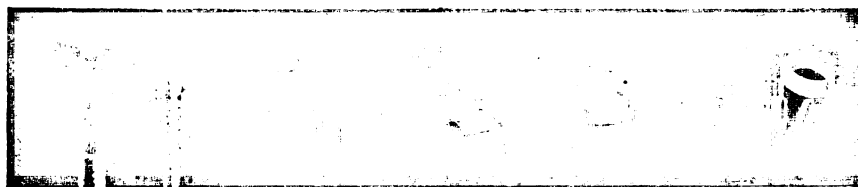
Cadillac won first prize in the "complete promotion kit" category; Minnesota Mining and Manufacturing Co. in the "double face corrugated counter unit" category; Dodge in the "lithography ceiling unit" classification; and Pure Oil Co. in the "outdoor signs" category.



THE ALL-NEW SILVER BEAUTY MODEL 200 CHARGER IS BIG AND BRAWNY—DESIGNED TO HANDLE THE DEMANDS OF TODAY'S DRIVERS FOR FASTER AND BETTER SERVICE

Most practical charger you've ever seen. "Penthouse" contains meters and controls where they are easy to read and protected from weather and bumps. Fully automatic—can't over-

charge. Rates: 100 amps for 6v—60 amps for 12v. And look—no tangles! Cables disappear inside roomy cabinet. Unconditionally guaranteed. Triple-A Specialty Company, Chicago



EVERYTHING FOR THE BATTERY BUT THE BATTERY ITSELF

Rimac "CORKER" Compression Testing Set

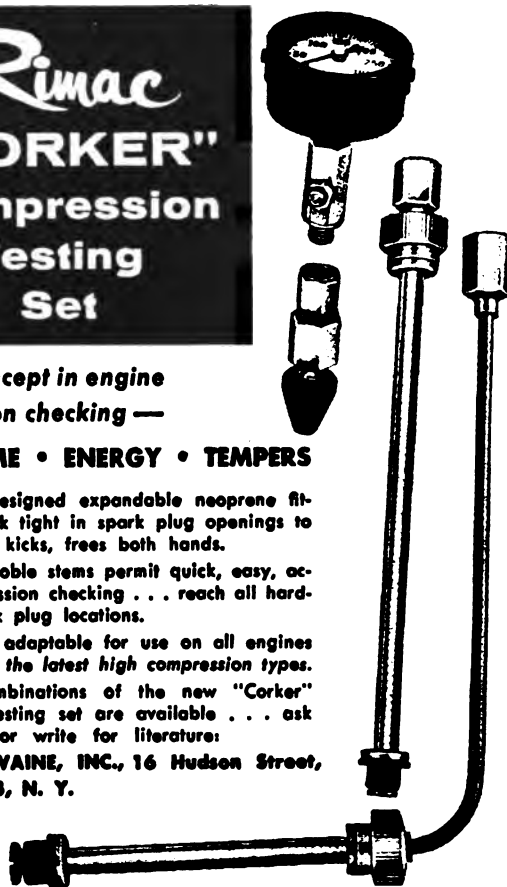
A NEW concept in engine
compression checking —

SAVES TIME • ENERGY • TEMPERS

- Specially designed expandable neoprene fittings . . . lock tight in spark plug openings to take pressure kicks, frees both hands.
- Interchangeable stems permit quick, easy, accurate compression checking . . . reach all hard-to-get-at spark plug locations.
- Completely adaptable for use on all engines . . . including the latest high compression types.

Various combinations of the new "Corker" compression testing set are available . . . ask your jobber or write for literature:
**RINCK-McILWAINE, INC., 16 Hudson Street,
New York 13, N. Y.**

COMPLETE SET
NO. 888
\$16.95



Rimac . . . SPECIALISTS IN FINE TOOLS FOR AUTOMOBILE MECHANICS



Teps in Packaging . . . Teps in Value . . . Teps in Useability . . . Just "TOPS"!

This new assortment contains over 90 insulated solderless terminals in a beautiful compartmented plastic box. A regular \$5.00 value for only \$2.98! This is a real combination value—useful box, useful terminals, terrific price!

Inside there's another Vaco extra. Special coupon saves you 40% on a handy magnetic pick-up tool.



See your Jobber or write:
VACO PRODUCTS COMPANY
317 East Ontario Street, Chicago 11, Ill.
In Canada: Vaco-Lynn Products, Ltd. and
Atlas Radio Corp.

What Detroit Is Thinking

continued from page 41

faulted for wanting to put on a brave face. But what is the reaction of the man at the retail level when he reads that his factory is experiencing an unprecedented boom while he, the dealer, is loaded to the walls? Not having access to the full picture, he can only assume his operation is the exception, the black sheep. So he runs scared.

This sort of hocus-pocus may be permissible to give the public the impression that car X is a hot product. But a synthetic boom is hardly a boon to the dealer who, unable to understand why his sales aren't soaring in line with the "trend," starts discounting before his new model is two months cold.

In-Betweens 12 Per Cent

Chevrolet, Ford and Mercury dealers who may be wondering what their respective factories expect them to do saleswise with Chevy II, Fairlane and Meteor might get an inkling of factory thinking via production schedules.

Factory programs call for the in-between size cars to take about 12 per cent of production during the October-December quarter. Starting with first-quarter 1962, output will be hiked or cut, depending on what dealers do with the vehicles during the current quarter.

Buick vs. Volume

Displaying more competitive spirit than they have evidenced since Buick toppled from third place in sales in 1957, dealers handling this GM product are trying to cut in on Chevrolet-Ford-Plymouth, using their new V-6 price leader as the spearhead. Dealers are selling hard against their historic rivals—Pontiac, Oldsmobile, Dodge and Mercury—but the big drive at Buick is against full-size volume cars.

Luxuries Pay Off

With many makes practically unchanged from last year so far as styling is concerned, medium- and high-priced products in particular, 1961 model trades coming in on 1962 cars are bringing peak profits, according to reports reaching Detroit sales departments. Luxury brands, such as Lincoln and Cadillac, are moving at record prices. Trouble is dealers cannot get enough merchandise because there is little incentive for owners to trade.

Long Wait for Bargains

Some makers apparently want dealers to lash their lowest-priced products to the salesroom floor, using them as price leaders to attract traffic. Factories are not refusing to supply the economy jobs, but dealers are told they will have to wait a long time—six to seven weeks in some instances—for future deliveries on a ration basis, order three cars, get one or perhaps two.

Profound Thinking

Why factory executives age fast during labor negotiations: Leader of a UAW local was asked why his members rejected a new contract that had been ac-

cepted by Walter Reuther and his team of negotiators.

"Well," the local head replied with a twist on the late C. E. Wilson's what's good for the country is good for General Motors and vice versa, "we figured, if it was a good deal for the company, it couldn't be good for us, too."

Bugged

The Man from the Advertising Agency Handling the Account of the Competing Car Company (hereafter abbreviated to Whizzer) settled back in an Impala on exhibition in the showroom in the General Motors Building. He was there to make notes on the car for one of those comparison books—which would inevitably show his company's product to be vastly superior to the competition—and had brought along his secretary to write while he dictated.

"All right," Whizzer began, "we'll start with a critique of the dashboard. The trouble with it is—" and he went on to enumerate the alleged deficiencies.

The girl had not filled the first page of her book when a voice, apparently coming out of the cosmos, said, "You don't have to go to all that trouble, sir."

"What?" Whizzer asked, severely rattled. "Who said that? What'd you say?"

"I did, sir," the voice from the void replied. "I said you don't have to go to all that trouble to describe the dashboard. You'll find folders around the room describing the cars in full. You don't have to write it down. It's all in the folders."

The display was rigged with loudspeakers and microphones in the cars. The male voice on the other end was stationed so that he could see the cars but could not be seen himself.

Whizzer hurried away, didn't even pick up a folder.

THE END. NOW TURN BACK TO PAGE 42

Chrysler Has \$4,800,000 Deficit

Chrysler Corp. reported a \$4,800,000 loss for the third quarter of 1961, compared with a profit of \$1,400,000 in the like 1960 period. Sales for the quarter declined 21 per cent.

For the first nine months, the corporation showed a \$20,500,000 deficit, against a \$25,100,000 profit in the 1960 period. Sales amounted to \$1,431,000,000, compared with \$2,386,000,000 last year.

Change ALL Tubeless Tires

12" THROUGH 19½" ON

1 LOW COST Tire Changer

Bishman

883-EC Economy Model

ONLY **\$109⁵⁰**



Includes 1 qt.
Rub - Er - Slide,
Applicator &
No-Drip holder.

Bishman "Rolling Action"
breaker shoe and powerful
Bishman air cylinder break the
tightest beads.

Fast "Posi-Lock" clamps wheels up to 19½" securely. Bishman double end tool mounts and demounts the tightest tires easily. Ask your Jobber for complete information and details of their easy purchase plan for a BISHMAN 883-EC Economy Tire Changer.

Made by the World's Largest Manufacturer of Electric Tire Changer.

Bishman MFG. CO., Route 2, Osseo
Minnesota



Step into this SALES OPPORTUNITY

For hundreds of automotive, household uses . . . for weatherstripping, sealing, protecting, insulating, cushioning, silencing. Profitable service or re-sale item.

Sell **DOR-TITE** Year 'Round

Soft, resilient sponge rubber stripping installs easily. No messy adhesive activator needed. DOR-TITE comes in black or off-white, all sizes.

See your jobber or write

DURKEE-ATWOOD CO.
MINNEAPOLIS 13, MINNESOTA



Flows freely even at -40°

Cabot's LUBRI-TASGON

The Lubricant that Penetrates

- Greater Lubricating Power.
- Quickly loosens gummed up sludge, prevents sticky valves.
- Penetrates the tightest joints, bearings, fittings.
- Added to crankcase oil it insures smoother performance, quicker starting in cold weather.

Send for samples and prices.

SAMUEL CABOT INC.

1113 S. Terminal Trust Bldg., Boston 10, Mass.

Comes in pints, quarts,
gallons, barrels and
handy 3 oz. tool kit size



More Power for Triumph

Larger and more powerful than the TR-3, this new Triumph TR-4 has all-synchromesh gearbox, roll-up windows and more luggage and passenger compartment space. Compression ratio is 9 to 1. Convertible lists at \$2,849, hardtop at \$2,999 on East Coast.

TR-4's 130.5 cu. in. engine is rated at 105 hp



whenever
tune-ups
are
talked
about
you
hear

Shurhit



The man who handles the tools knows the job must be done *right* — THE FIRST TIME — to make money and to build repeat business for his shop. That's why dealers appreciate SHURHIT'S unconditionally guaranteed QUALITY PARTS . . . the completeness of SHURHIT'S Service Data and TUNE-UP INFORMATION . . . the effective dealer training and selling aids they receive. Whether you're an "old pro" at this TUNE-UP business, or are just getting started, you'll find in SHURHIT'S Service Stock Program *exactly* WHAT YOU NEED to grow faster, go farther, AND MAKE MORE MONEY.

SHURHIT PRODUCTS, INC.
Waukegan, Illinois



GET THE FULL DETAILS FROM YOUR
SHURHIT JOBBER OR WRITE DIRECT

Sales Can Start In the Shop

continued from page 48

typing at her desk outside Cap Moran's office. Lou was nowhere in sight.

"Where's Lou?" asked Dan.

"I don't like to seem abrupt," said Adelaide, "but I'm not running a missing persons' bureau."

"He said he was gonna stop here, but I guess he didn't."

"It must be my lucky day."

"It's them cigars that get you," said Dan. "Is the boss in?"

"He's always in to you. You aren't always trying to sell him something like some of the characters we've got around here."

"I am this time."

"Good luck," said Adelaide. "If everybody had as much sales resistance as Mr. Moran, we'd have salesmen hanging themselves at every street corner."

Dan grinned. "I'll take my chances," he said.

When Cap looked up in greeting, he was smiling. The factory had just approved a dozen substantial warranty claims that had been hanging fire for over a month.

"We finally shook them loose on that warranty work they were belly-aching about," he said.

"That's good," said Dan. "We'll need the money to make a decent showing this month."

"What's wrong?"

"Nothing special—only slow. And this is the time that little five-and-dime operator that opened up out at Five Points picks to come in and demand a big discount on parts." [CONTINUED ON PAGE 160]

**SOARING in
POPULARITY**



BALDWIN



FILTERS

--with the Heart to CHALLENGE ALL OTHERS!

It takes real heart to be a winner—and BALDWIN has the heart. Pull one apart and see for yourself . . . compare the BALDWIN line with any others at any price. BALDWIN filters are best . . . highest quality materials, best performance. Automatic wound cotton, Microlite pleated plastic impregnated paper, Vac-Cel diesel media. **GUARANTEED TO KEEP OIL VISIBLY AND CHEMICALLY CLEAN!**

OIL • FUEL • AIR

BALDWIN offers the perfect combination . . . A QUALITY LINE, priced competitively, which means **MORE PROFIT FOR YOU.**

You can sell the Baldwin line with confidence.

Every filter element is fully guaranteed to exceed original equipment specifications **BY FAR.** You can sell every customer . . . oil, air, fuel filters for all U.S. and imported cars, trucks, tractors . . . means no dual inventory. Over 375 numbers available from your distributor.

BALDWIN FILTERS keep oil **REALLY CLEAN**—build customer confidence for you.

Contact your BALDWIN distributor. Let him explain the famous BALDWIN line and sales program. Or write for instant application and cross reference chart with name of distributor in your area.



J. A. BALDWIN *Manufacturing Co.*

Kearney, Nebraska

Producers of the World's Finest Filters Since 1936

Sales Can Start In the Shop

continued from page 160

"We do allow discounts, don't we?" asked Cap.

"Not to everybody that walks in."

"You said he had a service station."

"Sure," said Dan, "but how much business does he do? He don't stock nothing to speak of. And up to now he's never bought a

part from us if he could get it any place else."

"So far as we're concerned, then, he's strictly a captive parts buyer."

"He was in a coupla minutes ago asking for 30 off on a front bumper. I told Terry to give him 10."

Cap frowned. "Sit down," he said. "We may have been a little unjust to the man," he continued, when Dan got settled. "He may be new and he may not be buying many parts as yet, but that isn't sufficient reason to be rough on him."

"Ten per cent on a bumper is worth running over here for."

"But 20 or 30 would make it more worth his while. We've got to figure what we give him against what he may give us later on."

Dan's bewilderment was plain. "The only thing he'll ever do for us," he said, "is bother us."

"That," said Cap, thrusting forward in his chair, "is a matter of attitude."

"I know and his attitude is, he's doing us a favor buying from us."

"You know that isn't what I meant. I meant that word 'bother.' Nothing is a bother if you're interested in doing things for people. We're here to give service. That's what it says on the sign over your door. That's what your department is called. If people come in for service, how can we truthfully say they're bothering us?"

"Well," said Dan reluctantly, "maybe I used the wrong word. Maybe I should have said they want too much service. We don't make no profit off these shops that only buy crash parts and trim and things like that. They only come here because nobody else carries 'em. And then they want a discount as long as your arm. Where do we get off?"

Cap smiled at Dan's vehemence. "We do get a little extra markup on the parts we wholesale," he said.

"But that ain't no reason why we gotta give it all away."

"No it isn't. We've got to remember, though, that these independent repairmen buy a lot of stuff from us in the course of a year. When the items they buy are competitive, we match the jobber's discount. Naturally, they expect the same discount on the other parts, and you can't blame them."

Dan sat up straight. "I ain't disputing anything you say," he said. "All I wanta know is, do we give 'em a short discount or a long one on captive parts?"

"We'll be like the gals at the beach," said Cap. "We'll take off as much as the law allows. If the factory gives us a decent override, we'll pass it on. If it doesn't, we'll have to be stingy, too. But there's something we ought not to forget."

"Yeah?"

[CONTINUED ON PAGE 164]

a Kwik-Way Cylinder Boring Machine

**OUTLASTS
'EM ALL**

AND PRODUCES THE ULTIMATE
IN PRECISION WORK



CAPACITIES FROM 1 3/4" TO 9"

Serving the industry with the finest,
most complete line of engine
reconditioning equipment available

CEDAR RAPIDS ENGINEERING COMPANY
907 17th St. N.E.
Cedar Rapids, Iowa

Gentlemen:

- ☐ I'd like to see Kwik-Way Cylinder Boring Machines demonstrated. I understand there's no obligation.
- ☐ Send me further information and literature.

Name _____

Company Name _____

Address _____

City _____

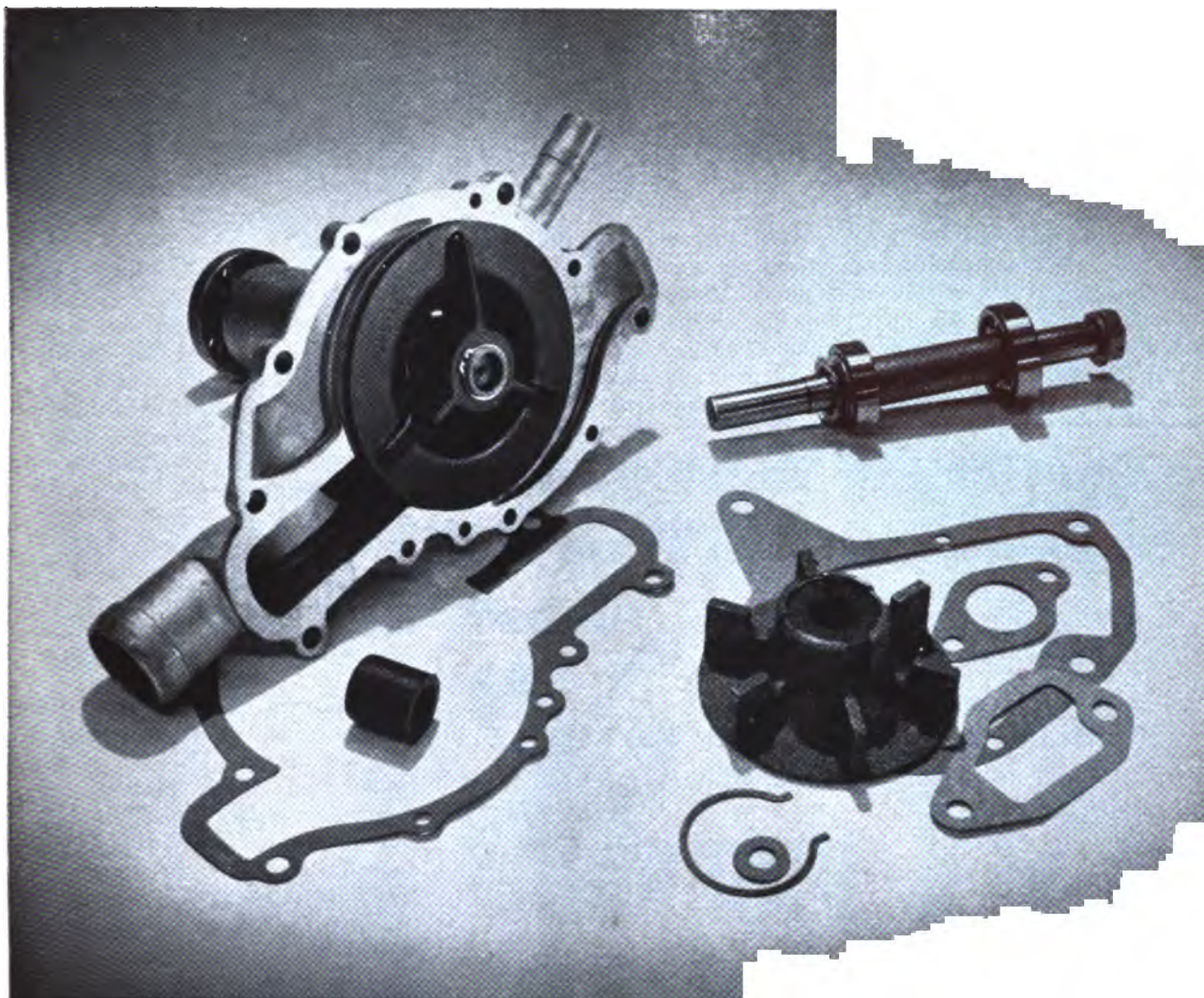
Zone _____

State _____

In Kwik-Way's complete line, you'll find the cylinder boring machine best suited to your needs. The Model FL gives you capacity from 3" to 6 1/2" (with extras the capacity can be increased to 9"); capacity of the model FT, shown above, is 2.630" to 5-9/32"; model FW from 2.2" to 4 1/2" and model FX from 1 1/2" to 2 1/2".

KWIK-WAY FEATURES

- Screw Feed
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- Quick, Easy, Accurate Tool Setting
- Three Finger Centering for Accuracy
- Overhead Chip Removal With Vortex Exhausting Device (on FL, FW, FT)
- Two Speeds — Instantly Interchangeable (on FT and FW. FL Features 4 Speeds, 4 Feeds)



Today's engines need **ALLIED** water pumps ... and your **N•A•P•A** Jobber has them!

● With higher pump speeds—higher pump bearing loads—and higher coolant system pressures, precision engineering is now needed for the water pump as well as for the engine.

Allied water pumps meet this need, with better materials, design and manufacture. Where required, aluminum housings provide better heat dissipation. Smooth, pit-resistant plastic impellers handle greater volume of water—have precision balance,

reduce bearing load, and prolong pump life as much as 30%.

On both aluminum and iron housings, cast and bored-out surfaces are accurately machined. As a result, Allied water pumps give you maximum insurance against leakage, bearing noise and more serious failures.

To whip the toughest jobs, use Allied water pumps or Allied repair kits. Get them from your N•A•P•A Jobber.

ALLIED AUTOMOTIVE PARTS COMPANY
Indianapolis 7, Ind.

This sign — on your shop
— is your customer's assurance
of fast service with quality parts

Get it from your **N•A•P•A** Jobber
... a good man to know!



Sales Can Start In the Shop

continued from page 162

"These independent garagemen and service station operations can help us sell automobiles. If we treat them right, they just might say something nice to customers about the line of cars we sell."

"I can imagine 'em doing it!"

"Don't be a cynic," said Cap. "Most people don't know much about cars. They talk as if they do,

but they don't. They haven't got the mechanical know-how to find out for themselves. They won't take my word that one car is better than another. I'm selling one line, so they take anything I might say as a sales pitch and disbelieve half of it.

"With the service station man or garageman, it's different. He works with cars all the time, so he ought to know them—all kinds. And he isn't selling cars, so his word can be accepted as gospel.

"If some car owner were to ask

this new service station man of yours what he knows about the car we sell, he might or might not praise it. But say we'd treated him well and he'd got to know us. He'd be more inclined to give our car a boost. The customer might not come to us to buy it but then again he might."

"That sounds awful complicated to me," said Dan.

"It's casting bread on the waters, I suppose," admitted Cap, "but I never believed in irritating people who are in position to do you good sometime."

—Edward Ford

Next month—The right way to run a business.

NOW TURN BACK TO PAGE 49

Are You Getting Your Share of Electrical & Ignition Tune-Up

Jobs?

A sweet running motor depends on good ignition. Electrical and ignition breakdowns head the list of automotive troubles in America and are number one as a source of service profit.

THE

P&D-IZE

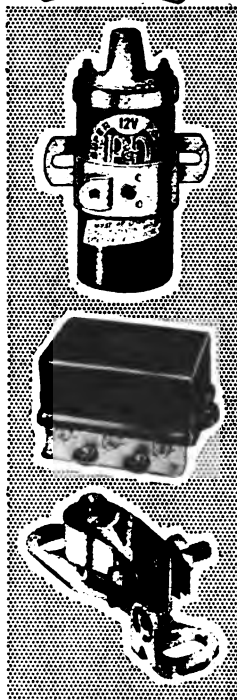
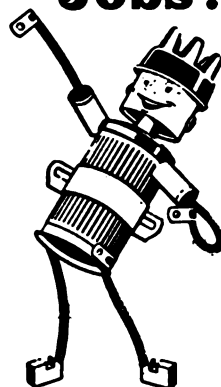
TUNE-UP PROGRAM

developed by your wholesaler and P&D has stressed the importance of annual ignition tune-ups to your customers—to get them to "P&D-ize At Least Once A Year."

The P&D-ize program starts with the finest ignition parts, finest field help, and productive advertising that brings results.

NOW is the time to P&D-ize for your customers and reap the profits.

See your wholesaler or write us.



P&D MANUFACTURING CO., INC.

STARTING - LIGHTING - IGNITION

19-02 STEINWAY ST., LONG ISLAND CITY 5, N. Y.

Export Sales: Borg Warner International, 36 So. Wabash Ave., Chicago 3, Ill.

How Would You Fix It?

Answer to problem on page 74

► Repairmen know from experience that, when everything checks out and the cause of the trouble hasn't been located, there is only one thing to do—recheck!

When the recheck was made, this time less hurriedly, the repairman noticed that the spring clip which attaches the needle valve to the float arm was missing. This permitted the needle valve to cock occasionally in its seat and restrict the flow of fuel.

Installation of a new spring clip eliminated the trouble.



"I'll have to ad-lib on this one! It was just traded in and I know nothing about it"

MOTOR, November 1961

How to Enforce A Code of Ethics

continued from page 45

of Better Business Bureaus and the National Automobile Dealers Assn. These standards are realistic and fairly comprehensive. They have been adopted in substance, by local associations of dealers and Better Business Bureaus. An equally effective set of standards is needed to cover work done in dealers' service departments.

Members of Independent Garage Owners Assn. receive a copy of the organization's Code of Ethics, which combines general professions of good intentions with such requirements as

"To itemize all parts and mechanical adjustments in the price charged for services rendered when requested to do so"

and

"To retain all parts replaced for customer inspection."

The code, virtually identical in the various local garage owners' groups, fails to cover such practices as installing a useless gadget, removing and replacing serviceable parts and accessories or charging for repairs not made.

Practice standards in a code need to be explicit enough to enable every dealer and garage owner to draw a clear line between what is approved and what is condemned.

Stands for Integrity

3...An emblem of membership required to be displayed by association members. It should be large, colorful and plainly indicate that it stands for integrity in business dealings.

4...A public relations campaign to inform prospective customers that the association emblem means that the dealer or repairman who displays it adheres to the Code of Fair Dealing.

This public relations effort must be a continuous one. Newspaper advertising, publicized addresses by members of the industry and public figures and awards of merit to association and industry members are among the employable devices.

The objective must be constantly adhered to, namely, to identify the association's emblem as a symbol of integrity, and the dealer who displays it as a man to be trusted.

5...Machinery to discipline the dealer or repairman who breaks the code.

Such machinery is indispensable. Without it, neither the association, the code nor the emblem have real significance. Who will retain confidence in an emblem when it continues to be displayed by a dealer

or repairman who has defrauded him or his neighbor?

An enforcement mechanism which has proved useful in other industries is the grievance committee, composed of association members of good reputation. Such a committee should be large enough to provide hearing panels of at least five members, to hear complaints of breach of the code. A full hearing under fair rules must be accorded to complainants and dealers alike and any party should be

[CONTINUED ON PAGE 166]



Two-Plunger Frame Pick-Up Lift

- Puts cars up where parts are easy to reach
- Mechanics can work faster, turn out more jobs
- Shop can handle more volume, increase your profits
- Handles all makes easily, even compacts and foreign models
- Fast, easy-set "swinging arm" superstructure
- Superior cable-type jack equalizing system
- Dependable Rotary hydraulic jacking systems... your choice of Full Hydraulic or Semi-Hydraulic



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1110 Kansas, Memphis 2, Tenn.

Please send information on the Rotary Lift Model FP28 to:

Name

Company

Address

How to Enforce A Code of Ethics

continued from page 165

entitled to representation by counsel if he wishes.

Of course, each member of the association, upon joining and receiving his emblem, agrees to obey the code and to abide by the decisions of the association and its grievance committee. To prevent discrimination or in-fighting among members, a grievance pan-

el decision, whether it calls for reparation or restitution to the customer or reprimand, fine, suspension or expulsion from membership for the member, should require the concurrence of at least a two-thirds majority of the grievance panel members.

Ratification by a majority of the entire membership is not an unreasonable requirement or an appeal may be allowed to either the association or an executive or appeal committee by any condemned dealer.

When the grievance rules and procedures are fair and reasonable, the members' agreement to be bound by the association's decisions arrived at under such procedures will be recognized by the courts and can be enforced by appropriate legal action.

The general rule has been stated by the New York Court of Appeals:

Backed by Courts

"The constitution and by-laws of an . . . association express the terms of a contract which define the privileges secured and the duties assumed by those who have become members. As the contract may prescribe the precise terms upon which a membership may be gained, so may it conclusively define the conditions which will entail its loss. Thus, if the contract reasonably provides that the performance of certain acts will constitute a sufficient cause for the expulsion of a member, and that charges of their performance, with notice to the member, shall be tried before a tribunal set up by the association, the provision is exclusive, and the judgment of the tribunal, rendered after a fair trial, that the member has committed the offenses charged and must be expelled will not be reviewed by the regularly constituted courts."

Other industries confronted with the problem of the gyp dealer and loss of public confidence are achieving health through such self-enforcing codes.

Must Accept Decision

For example, the Greater Columbia Television and Electronics Program sponsored by the Better Business Bureau of Greater Columbia (S.C.) provides for an arbitration panel empowered to review the facts involved in complaints, decide where the blame lies and recommend a suitable remedy. All members participating in the program must agree to accept the decision of the panel.

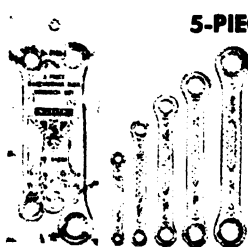
The New York State Funeral Di-

*Polin v. Kaplan, 177 N.E. 834, 257 N.Y. 277. See also, Otto v. Journeymen Tailors, 17 Pac. 217, 75 Cal. 308; Weiss v. Musical Mutual Protective Union, 42 Atl. 118, 189 Pa. 446.

A complete new line of Ratcheting Box Wrenches



An ideal tool—the utility of a box wrench with the PLUS features of a ratchet—for speedy work where space is extremely limited. Available in six popular wrenches—11 separate openings. The four smallest sizes are especially designed with six point openings for a more positive grip where nuts and bolts are undersized or distorted. Brightly plated.



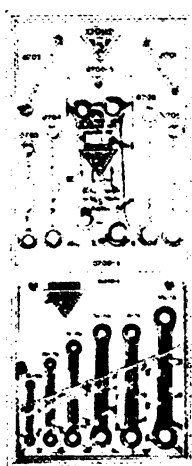
5-PIECE SET

Range 1/4" to 7/8". This five piece set covers the ten most popular sizes without duplication. Beautifully packaged in a Vinyl plastic pouch.



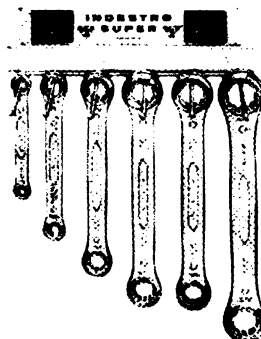
6-PIECE SET

Range 1/4" to 7/8". This 6 piece set covers the eleven most popular sizes. Beautifully packaged in two color reinforced, Vinyl plastic kit. Each wrench partition is wrench sized for your convenience.



RATCHETING BOX WRENCH DISPLAY

Another addition to the vast assortment of Indestro permanent displays. This Standard Junior Panel—13" x 31"—will blend into your present Indestro display or would be an excellent addition to all tool departments. A complete selection ranging from 1/4" to 7/8" are included in open stock—PLUS the popular sets beautifully packaged in Vinyl plastic kits and pouches.



SERVATOOL DISPLAY

A complete and compact perforated board display. Universally adaptable to 1/2" or 3/4" peg board, or solid surfaces by using the hanger bracket provided (FREE) with each display. Display consists of the six most popular wrenches—ranging in size from 1/4" to 7/8".

INDESTRO

Division of Duro Metal Products Co.
MANUFACTURING CORPORATION
2649 N. Kildare Avenue • Chicago 39, Illinois

Manufacturers of
Duro-Chrome
Hand Tools
and
Duro Power Tools

rectors Association, Inc., maintains a committee on grievances and complaints which is required to investigate "every complaint received against a funeral director for misconduct, which if established, might be the subject of punishment or disciplinary action."

The committee may initiate investigation where no complaint has been made if it believes an investigation to be advisable. The committee is empowered to take such action on complaints as it deems appropriate. "No action to discipline or prosecute any funeral director shall be taken by the committee without the affirmative vote of at least five of the seven members of the committee."

Fairness Cited

I have been called as a consultant in the investigations of this committee from time to time and I can attest to the fairness and effectiveness of its work.

The decisions of the grievance committee should be given publicity. Where charges are found unjustified the accused member is en-

titled to have the public informed. Conversely, where suspension or expulsion is ordered, wide publicity is desirable in the interest of the membership as a whole and in all such cases the association emblem must be recovered.

Insignia Returned

The continued display of the emblem by the offender downgrades its value as a symbol of business integrity and works an injury to all other members of the association. "Should the ousted member refuse to surrender his insignia, the courts must be resorted to, if necessary, in order to retake it.

When the customer becomes accustomed to looking for the emblem of membership and the association members are aware that the emblem will be forfeited for misconduct, specific enforcement measures will be held to a minimum, for violations are likely to be few.

Honest men deserve, and can enjoy, the benefits of a reputation for fair dealing, which, as Henry Ward Beecher said, "is itself a fortune." THE END. NOW TURN BACK TO PAGE 46

BARBEE

RADIATOR

EQUIPMENT & SUPPLIES

SINCE 1920



Profitably used in more than 2,000 shops.

Barbee equipment, accessories and chemicals supply every need for the Radiator Repair Trade.



THE BARBEE CO., INC.
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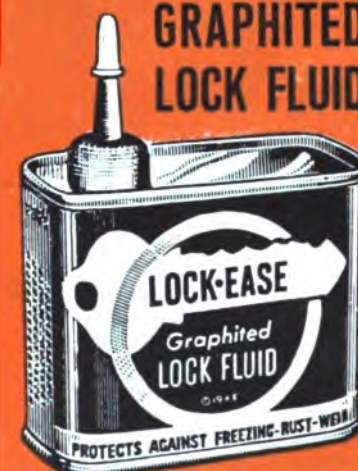
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AS VITAL TO A LOCK AS ITS KEY!

Squeeze it out—a drop at a time—or in a steady stream—to protect locks against rust, sticking and freezing. LOCK-EASE works by penetrating deep into the heart of the lock mechanism . . . flushes out dirt and grease . . . leaves a moisture repellent, anti-rust graphited film that keeps locks working even at 20° below! (Won't run at 200° F. above).

Always have can handy for those emergency "freeze-out" calls. Also, put a few drops in every car lock to finish off your regular lube with a "deluxe touch." Surprising how many customers come back to purchase a 49¢ can for year-round lock protection.

LOCK-EASE® GRAPHITED LOCK FLUID



Another "STANDARD OF THE INDUSTRY" from

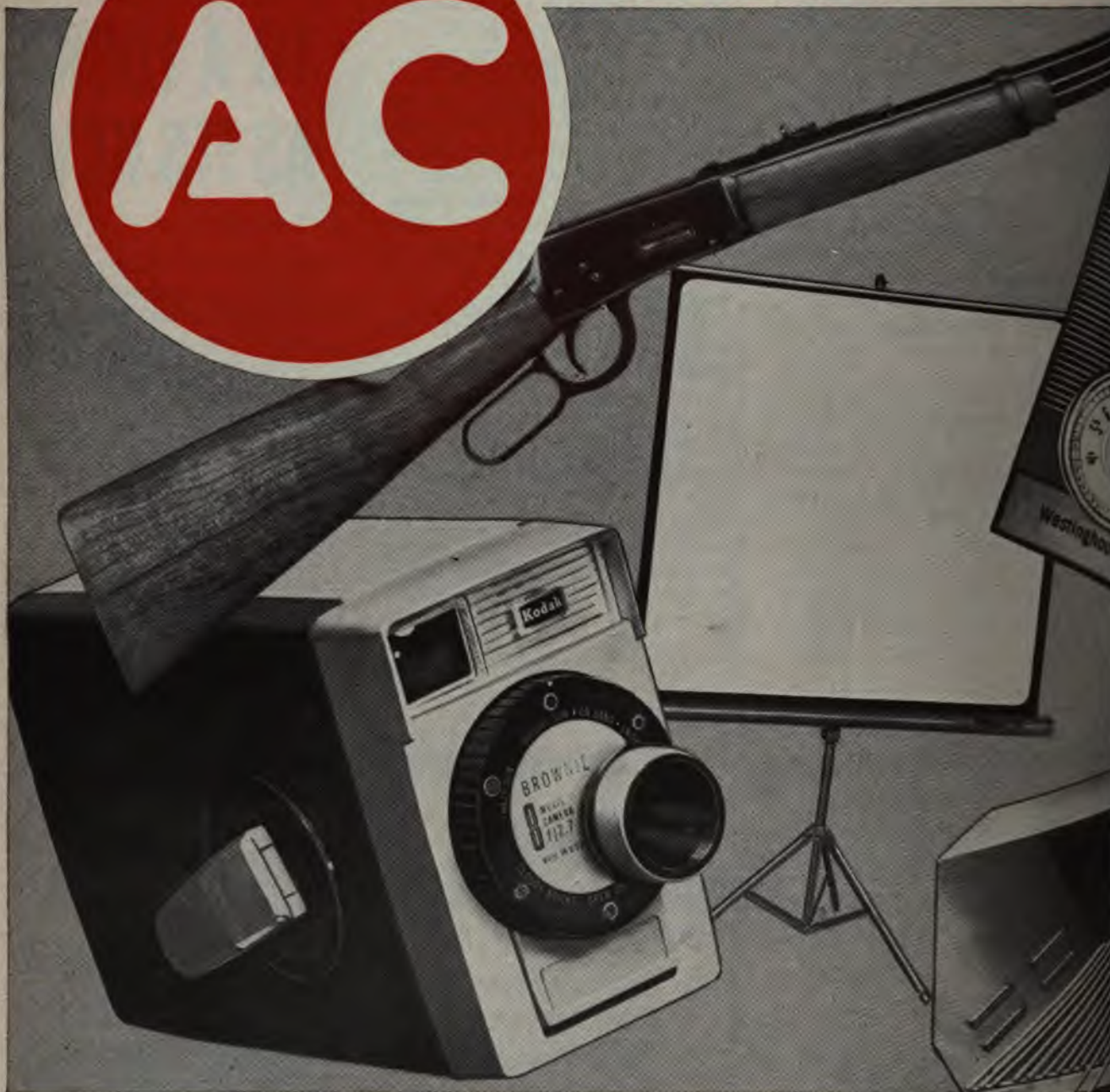
**AMERICAN GREASE
STICK COMPANY**

LE-350

Muskegon, Michigan



SELLING SLAN



Take your pick of over 600 Top-Br

If you've ever had a yen for a new camera, fishing gear, golfing equipment or any of the exciting prizes you see here—then AC's Parade of Prizes is for you. You can get any of these famous-brand gifts and many more (over 600) with the AC Parade of Prizes prize points that come with AC's AFM-94 Air Filter Merchandising Packages. *AFM-94 includes 340 valuable prize points* (enough for


many of the wonderful gifts), big *Parade of Prizes* log, *Contest Chart* (to stimulate employee sales), *Brochure of traffic-builder giveaways* and two *ACA-86-C Air Filter* elements. You get all of this for \$5.78, the recommended dealer price of the elements alone, with a qualifying order for 12 AC Air Filter elements of your choice. All of the other items in AC's

THE MONTH!



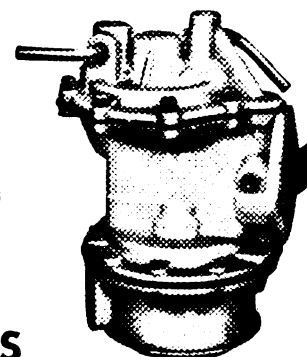
01-M Merchandising Packages

Items for \$9.23, the suggested dealer price of the 123 fuel pump, after a qualifying order of 6 AC pumps of your choice. Parade of Prizes prize points are available in AC Oil and Air Filter Merchandising Packages. Call your AC supplier today!

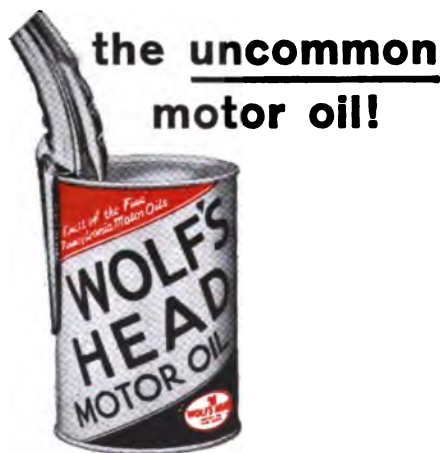
AC PLUG  THE ELECTRONICS DIVISION OF GENERAL MOTORS



FUEL PUMPS



NOVEMBER 1961



Motorists who *care* for their cars . . . and servicemen who *care* for their customers . . . agree that WOLF'S HEAD Oil is truly the finest of the fine. There's a reason—WOLF'S HEAD is 100% Pure Pennsylvania, Tri-Ex refined three important *extra* steps and scientifically fortified for the finest engine protection. The result is *uncommon* lubrication . . . *uncommonly* low operating and upkeep costs . . . truly *uncommon* quality. That's why many motorists who *care* for their cars insist on WOLF'S HEAD. Keep your customers coming back with WOLF'S HEAD . . . the motor oil that commands *uncommon* customer loyalty the country over.

**WOLF'S HEAD OIL REFINING CO.
OIL CITY, PA.**

International Scout Gets New Top



International Scout with its newest accessory, a full-length sport top. The vinyl-faced cotton top is supported by tubular steel sections

Capital Close-Ups

continued from page 57

if they are interested in selling any of the retail outlets they now lease, whether they would finance such sales, and at what price. Other questions require a listing of dealers by classification, and the average length of leases.

Tire Tax Bill in Senate

Unfinished business list of the Senate includes a bill passed shortly before adjournment by the House to equalize the law on collection of excise taxes on tires and tubes, putting independent dealers on a par with manufacturers which operate their own retail outlets. Small business groups are backing the bill. H.R. 221.

U.S. Warns of Monoxide

Surgeon General Luther L. Terry of the U. S. Public Health Service has issued a cold-weather warning on carbon monoxide poisoning which can be used to develop winter service business by repairshops. There were 385 deaths in 1959 caused by monoxide from automobile exhausts. Most important preventive step urged by the government is a check of the exhaust system to discover leaks.

While most cases of accidental poisoning from leaky exhaust systems occur in the winter when many motorists keep all windows closed, the increasing popularity of air-conditioned cars makes it a year-round problem. Monoxide poisoning of motorists is often mistaken for car sickness, since nausea and dizziness are symptoms of both.

Industry Men in Group

Automobile industry will have two out of 25 members of an advisory panel picked to review and evaluate the National Vocation Training Act. Named by HEW Secretary Ribicoff were Frederick T. Corleto a South Philadelphia Buick dealer, and Charles O'Dell, who works for UAW at its Detroit head-

quarters. The group is headed by the Chicago superintendent of schools, Benjamin C. Willis, and includes representatives of labor, industry, education, Government, and the public.

Serving as consultants, the appointees will review and evaluate the vocation law and make recommendations for improving and redirecting the program. One possible result is more effective methods of training automobile mechanics.

Census Helps Dealer

A Small Business Administration leaflet, "New Census Information for Your Business," tells the story of how an anonymous used car dealer in a Northern state used census data to pick the right spot to relocate. Doctor's order required a change in climate.

He sold out and sought to re-enter the business in one of four states in the Southwest. He used census statistics to pick the right community.

"It was like being handed a business map," he reported, "and being told to pick the best place for my business. Without it I'd have been guessing."

The leaflet, No. 70 in SBA's "Small Marketers Aids" series, tells how to put census figures to work for business purposes. A list of 11 uses includes measuring performance against competitors, study of local buying habits, consumer preferences, and changes in purchasing power and business trends in an area as small as a single neighborhood.

Shorts

A Washington Post columnist ran the following item under the heading "Pun Fun": "The new National Automobile Dealers Assn. Bldg. at 200 K St. N.W. has a big sign that says it is NADA building, but it sure looks like one to me." . . . 1958 Census of Business figures just issued report automobile imports of \$511,000,000 but exports of only \$17,000,000. Parts and accessories brought in were worth nearly \$11,000,000, and those sent overseas were worth about \$90,000,000. . . . According to the Bureau of Public Roads, motor-fuel consumption is expected to total 64,900,000,000 gal. for the U.S. in 1961, a gain of 2.6 per cent over 1960. Based on this estimate, annual rate of fuel consumption comes to 781 gal. per vehicle.

THE END. NOW TURN BACK TO PAGE 58

PRACTICAL DAN SAYS:
"Don't be a parts washer!
Get one — get a Kleeeflo!"

SAFE! PART WASHERS

CLEANMASTER WITH Kleeeflo CARB-U
ONE OF 9 Kleeeflo AUTOMATICS . . . spe safety equipment for every parts cleaning

- Unit includes air-agitated soaking drying shelf and parts basket!
- Two cleaning actions . . . separate simultaneously!
- Continuous 2-way filtration!
- Two BIG safety features . . . fast-acting link in self-closing cover PLUS patented driven by fan-cooled, spark-free motor!

CARB-U-TATOR (Model C-10) attaches to MASTER as optional equipment. Also obtain a bench unit (Model C-10B). Cleans carb fuel pumps, pistons, brake and power parts, etc.

Kleeeflo **UL Quality SOLVENTS and COMPOUNDS** **SAFE!**

NEW All-Purpose Super CARBUSOL
Cleans carburetors, transmission parts, carbonized parts . . . easier, faster!

A safe, NON-TOXIC, rapid quick-drying fluid used c moves grease, oil, slud from

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1ST CHOICE

SIOUX

VALVE FACE GRINDING MACHINES

ARE IN USE THAN ALL OTHERS COMBINED!

CHOOSE SIOUX WITH CONFIDENCE

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SIOUX CITY • IOWA

Don't Blow Another Gasket



K&W's Metallic Gasket Compound sets up in just one to two minutes, yet stays free enough to assure a fast, easy fit . . . minutes or hours later. Even the heaviest gasket keeps a no-creep, no-crawl alignment. Always stays pliable so you'll never have to scrape another gasket.

K&W's special atomized copper compound fills uneven surfaces . . . resists exhaust and combustion hot spots . . . conducts heat . . . gives a positive seal against gaseous and liquid leaks.

Fast working Copper Coat is ideal for use wherever a gasket compound is recommended. Sets paper, cork, fiber or metal. Get it from your supplier today.

SWITCH TO NEW COPPER-COAT



K&W PRODUCTS, INC.
Whittier, California Bloomington,

Easy Cures For Hard Starters

continued from page 57

the condition. If the choke is too tightly closed, crack it open with the tip of a screwdriver. Do not use your finger—the engine may backfire through the carburetor.

Once the engine starts, wait until it warms up before making final adjustments. This time can be used to review the owner's habits in starting the car. Does he pump the

gas pedal too much before cranking? If the car has a manual choke, is it used properly? Is the owner in the habit of using headlights, heater, defroster, radio and other electrical accessories all at once, causing rapid battery drain?

All these hints apply to the occasional hard-starting car. But if the complaint happens often, the same car is a chronic case, and it is time for a more thorough diagnosis with test equipment in the shop.

When tackling such a complaint, the repairman should remember

that the cause of the problem didn't "just happen" but is usually a result of troubles which have been unnoticed or ignored.

These troubles could be almost anywhere and may therefore need detailed tests to uncover them. A complete diagnosis of each individual unit under the hood is a sure but drawn-out way. It's unprofitable for the shop and unsatisfactory to customers who want their vehicles returned in the shortest possible time. The use of a fast, reliable method of locating the trouble source will not only satisfy the customer but make room in the shop for more repair jobs. This is possible with the method known as area tests.

Check Entire System

Rather than checking individual components, the repairman can save time by testing the performance of an entire system at one time. The condition of the system tested can then be judged by results. Once negative readings are found in a system, a unit-to-unit check can isolate the exact cause of hard cold starting.

An engine needs three things to get it started and keep it running—



Makers of quality imported cars specify Lucas products as original equipment. To insure customer good will always replace Lucas with Lucas. A Lucas representative will be glad to help you plan a basic inventory.



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electricity, fuel and pressure. A hidden inefficiency in any of these will result in hard starting. If the engine has good carburetion and ignition but the exhaust valves are burned or leaking, compression will be poor and starting will be difficult. Or, if the fuel system and compression are good and the spark plugs are fouled, the same problem will result. Over-all engine performance, therefore, depends on the performance of the individual systems.

Place to Look

The first place to look for causes of persistent hard starting is in the starting circuit itself. This consists of the battery, cables, relay, solenoid and starter motor. By making a cranking-voltage test, all the units are checked simultaneously. If cranking voltage is below specifications, then each component will require individual testing. If the voltage is satisfactory, it can be assumed that the cause of hard starting lies somewhere else.

The next logical place to check is the ignition system, which ob-

viously takes in a great number of units. A distributor-point resistance test will reveal faults throughout the primary circuit. Broken wire strands or corrosion may exist in the ignition switch, ballast resistor, coil primary winding, distributor leads, ignition points or condenser.

Resistance High

If any of these units is corroded, loose or "shorting out," the electrical resistance will be high and the meter will show it.

If everything checks out, the next step is to make a secondary resistance test. This locates many of the hard-to-find causes of hard starting, such as defective coil secondary winding, cracks in the distributor cap, the rotor, the spark plugs and all high-tension leads. The test is made directly at each spark-plug terminal, the final stage of the secondary circuit.

If all readings are low, then trouble is likely to be in the coil, center tower of cap, rotor or wires from distributor to coil. If readings at a few terminals are low, then those particular spark plugs or wires can

be suspected of robbing the engine of electrical power needed for easy starting.

An over-all check of engine performance can be made with a vacuum gauge. This test meter has long been a favorite with repairmen. When it is connected to the intake manifold, the amount of engine vacuum will be shown. Faults such as sticky or burned valves, poor carburetion, late ignition timing, leaking head, manifold or carburetor gaskets or clogged exhaust system can be detected. Any one of these can cause hard starting.

THE END. NOW TURN BACK TO PAGE 57

NADA Directors Elected

Leo B. Carey, Coventry, R.I., Dean Chaffin, Bozeman, Mont., Maurice J. Grant, Manchester, N.H., and Arthur E. Summerfield, Jr., Flint, Mich., have been re-elected to represent their states on the board of directors of the National Automobile Dealers Assn.

Carrol G. Oakes, Morristown, Tenn., has been elected to represent his state on the NADA board.

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New York Dealers Hear Chrysler Plans

Lynn A. Townsend, president of the Chrysler Corp., speaking at the 38th annual meeting of the New York State Automobile Dealers at Kiamesha Lake late last month, said his firm considers dealer profitability to be of prime concern. Chrysler is interested in dealers who maintain good volume and good gross.

Chrysler Corp. has embarked, Townsend said, on a program to improve its market representation, to find good dealers in all areas. Substantial money will be spent to recruit dealers and loans will be made to help some get started. In addition, Chrysler will build facilities itself in some areas and lease them to dealers.

Other speakers at the convention included Thomas F. Abbott, president of the National Automobile Dealers Assn., James J. Reynolds, Assistant Secretary of Labor, U.S. Dept. of Labor, and Warren King, *Life* Magazine.

Wesley Van Benschoten, Poughkeepsie, was elected president of the New York dealer group, James E. Sayles, Suffern, first vice president, Robert O. Barton, Lockport, second vice president, R. Harold Craig, Albany, third vice president, J. J. Hayes, Rockville Centre, secretary, James K. Patrick, Troy, treasurer and Harvey M. Stewart, Syracuse, assistant treasurer.

William L. Webster, Schenectady, was presented the New York State Dealer of the Year award.

New Jersey Dealers Elect Laurie

J. Alex Laurie (Ford), Morris Plains, was elected president of the New Jersey Automotive Trade Assn. held late last month at Atlantic City.

John S. Stratton (Pontiac), Pitman, was advanced from the second to the first vice presidency. William F. Downs (Ford), Toms River, was named second vice president and Edward A. Kammler, Jr. (Buick), Elizabeth, treasurer last year, was elected third vice president.

The new treasurer is Harold R. Edwards (Pontiac), Millville. William L. Mallon (Pontiac) Irvington, as he has for so many years, was again named

secretary. Otto Henneberger continues as manager.

Attendance exceeded last year's. High spots of the program were the dealer panel on the problems of making a profit next year, and a closing address by James C. Moore, executive vice president of the National Automobile Dealers Assn., who reported on the efforts of the Task Force and told the group that further changes in dealer-factory relations could be expected.

1961 Vehicle Registrations May Top 76,000,000

According to Federal Highway Administrator Rex M. Whitton, motor vehicle registrations are expected to reach 76,007,000 for 1961. This would represent a gain of 2,106,000 or 2.8 per cent over the 73,901,471 vehicles registered in 1960.

Passenger cars are expected to number 63,488,000 for 1961, a 2.9 per cent increase over the preceding year, while trucks and buses are expected to total 12,519,000, a gain of 2.5 per cent.

The anticipated 2.8 per cent rate of increase is less than in the previous year, when registrations increased 3.3.

GM's Net Dips

In the third quarter of 1961 General Motors Corp. reported net income of \$88,000,000 and total dollar sales of \$1,968,000,000. For the comparable 1960 period the corporation's net income was \$89,000,000 and dollar sales amounted to \$2,201,000,000.

STATEMENT REQUIRED BY THE ACT OF AUGUST 24, 1912, AS AMENDED BY THE ACTS OF MARCH 3, 1933, JULY 2, 1946 AND JUNE 11, 1960 (74 STAT. 208) SHOWING THE OWNERSHIP, MANAGEMENT, AND CIRCULATION OF

MOTOR published monthly at New York, N. Y., for October 1, 1961.

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5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: 120,733.

CLIFFORD S. BAILEY, Business Manager.
Sworn to and subscribed before me this 28th day of September, 1961.
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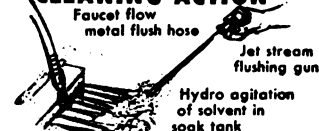
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Service Tips On New Chevy II

continued from page 41

ancer. To obtain a positive alignment for the timing mark, the pulley is bolted to the hub with two $\frac{3}{8}$ in. bolts and one $\frac{5}{16}$ in. bolt through matching holes in the pulley. However, these three bolt heads are the same size as a service convenience.

The three camshaft bearings used on the 4 cyl. engine and the

four bearings on the 6 cyl. have the same inside diameter. But the two end bearings on both engines have a larger outside diameter than the bearings which support the middle of the shaft. Be sure, on both engines, that No. 1 insert is installed so that it does not cover the oil passage to the timing-gear nozzle.

Fan-belt tension should be adjusted to 90 lb. new or 70 lb. used, measured with a strand tension gauge. A belt which has been used less than 1,000 miles is considered new.

The carburetor on the 4 cyl. engine is a model B Rochester with manual choke. The BC model on the 6 cyl. engine has an automatic choke. Choke setting is at index with manual transmission, and one notch rich with Powerglide. On both carburetors the fuel-level setting is $1\frac{1}{32}$ in., and float drop $1\frac{1}{4}$ in.

Distributor New

The distributor on both engines is a new aluminum bowl-type unit with a fixed vacuum control. The distributor clip is retained by hold-down screws. Vacuum advance starts at 5 to 7 in. and maximum is 11.5 deg. at 11 to 13.5 in. Centrifugal advance, with clockwise rotation at top, is .5 to 2.5 deg. at 400 rpm. Intermediate range is 6 to 8 deg. at 750 rpm and 9.5 to 11.5 deg. at 1,300 rpm. Maximum is 13 to 15 deg. at 1,850 rpm. Be certain, when installing a condenser, that the mounting screw does not extend too far through the breaker plate and so prevent free movement of the plate.

The resistance wire in the ignition primary circuit is contained in the wiring harness to the coil primary. This resistance has a rating of 1.8 ohm at 80 deg.

There is no pan under the clutch assembly and the housing must be removed to replace an assembly. The housing can be removed either with the transmission as an assembly, or separately after the transmission has been taken off.

Clutch-pedal free travel should be $\frac{3}{4}$ to 1 in., measured at the pedal pad, before the throwout bearing makes contact. One adjustment compensates for normal clutch wear.

Loosen Lock Nut

To make the adjustment, loosen the lock nut at the swivel end of the push rod connected to the clutch fork. Shorten the push rod, by threading the rod in the swivel, to increase pedal free travel, or lengthen it to reduce free play. A play of approximately $\frac{1}{8}$ in. between the push rod and its seat in the fork will give the required free travel at the clutch pedal.

The converter of the new Powerglide that is optional on the Chevy II is a welded unit and cannot be

[CONTINUED ON PAGE 180]

Who says Brake Cylinder Hones are all the same?

LOOK AT THIS NEW ONE FROM K-D!

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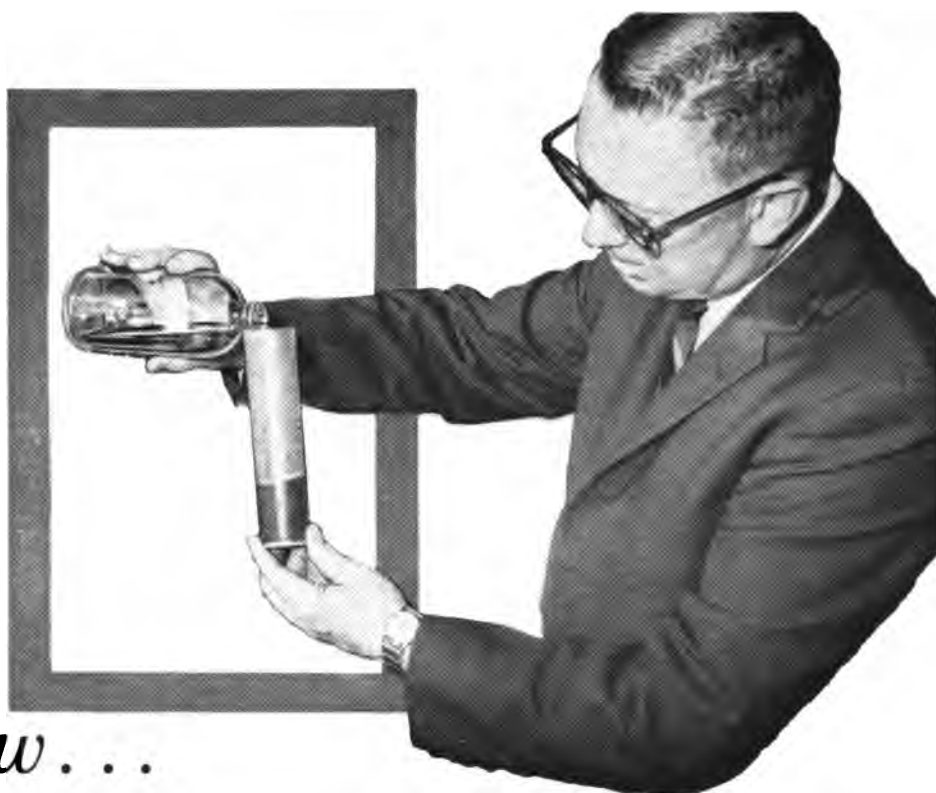
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Service Tips On New Chevy II

continued from page 178

served internally. The band clutch for low and disc clutch for drive are incorporated in the drum assembly. The valve body located at the bottom of the case, can be serviced without removing the transmission.

A fluid-level check, with the oil hot and control lever in neutral, is recommended every 1,000 miles.

Add fluid only when the level is near the "ADD" mark on the dipstick, and do not overfill. Changing the fluid is not required, except in case of overhaul.

To check shift linkage adjustment, stop the engine, lift the selector lever and move it to the position where the Drive detent is felt. Then slowly release the lever. Feel will tell you whether the shaft lever tang freely enters the lock plate. Check Reverse in the same way.

If the tang does not enter the

lock plate freely in both r place the selector in "D" and connect the control rod at its attachment to the lever on the other end of the mast jacket. place the shift-control outer in the "D" position. The counterclockwise detent is "1" the first clockwise detent from is "D." Now, at the lower of the mast jacket, hold the lever against the "D" stop lock plate and, with the rod through the swivel, tighten clamp nut.

Depress Accelerator

To adjust the throttle valve connect the linkage and dash the accelerator and dash against a .06 in. spacer on the stop. Then rotate the bellcrank to its wide-open position. The on the bellcrank connecting should be adjusted so that it the hole in the dash lever will binding. Now move the transmission lever to its full detent at the transmission. With bellcrank and rod held wide against the stop and spacer, at the swivel on the rod connect the bellcrank to the transmission lever so it can be installed free the lever.

To adjust the neutral switch, place the selector in and loosen the screws securing safety switch retainer. Hold the ignition switch in "Start" and the position of the safety switch until the engine cranks. Check adjustment for cranking in both neutral and Park.

Located in Springs

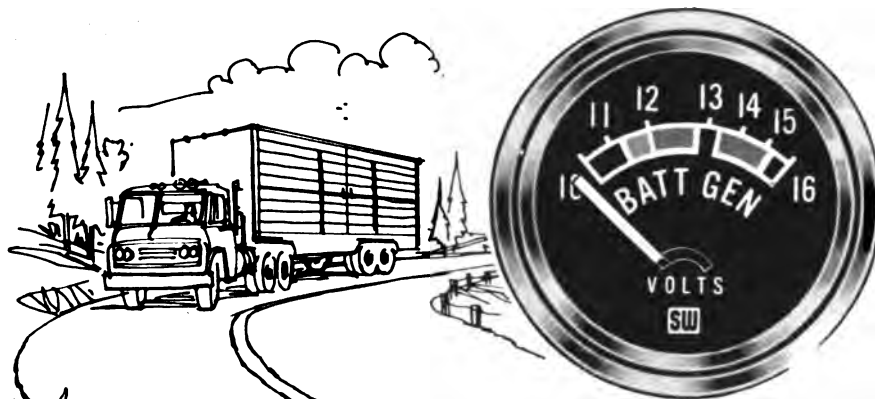
Front shock absorbers, located inside the coil springs, are bolted to the lower seats of the coil springs and to upper brackets attached from the engine compartment.

Caster adjustment is made by strut rods which attach to the lower control arms, as on the Chevrolet. Shortening the rod increases positive camber. Camber is adjusted by loosening the pivot bolt on the lower control arm and rotating the cam pivot to move the arm in or out.

Adjust caster 1 deg. positive, or minus 1/2 deg. Set camber 1/2 deg. positive, plus or minus 1/2 deg. and within 1/2 deg. of the opposite side. Steering axis inclination is

[CONTINUED ON PAGE

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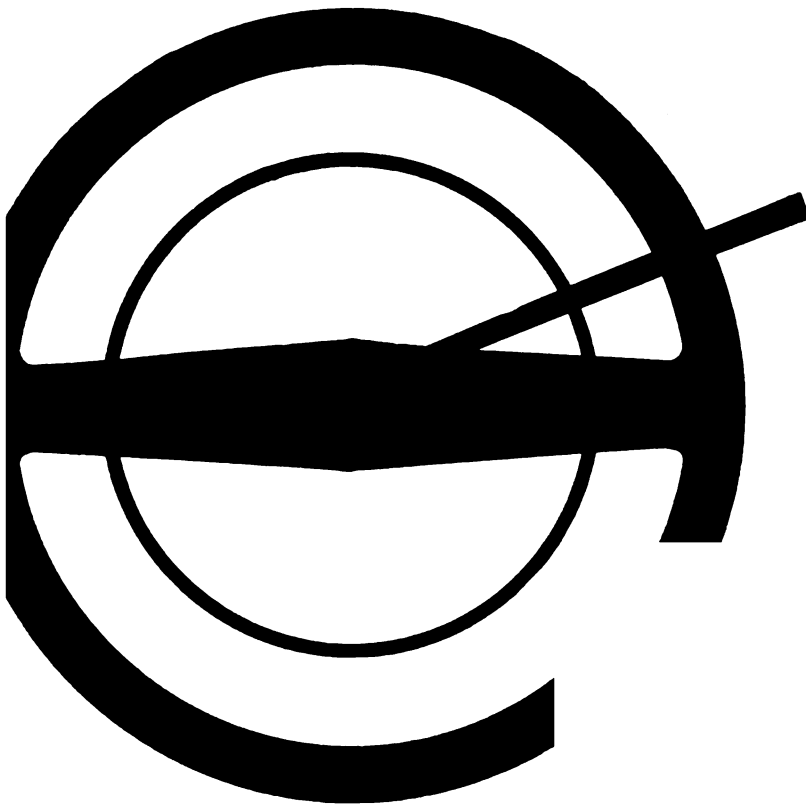
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Service Tips On New Chevy II

continued from page 180

deg. Steering axis inclination and camber angle combined should be 8 deg., plus or minus $\frac{1}{2}$ deg. If they are not within these limits, the knuckle is bent. Toe-in total is $\frac{1}{4}$ to $\frac{3}{8}$ in. Toe-out on turns should be $18\frac{1}{2}$ deg. for the inner wheel and 20 deg. for the outer wheel. The limit of variance for each wheel is plus or minus 1 deg.

The unitized-type body on the Chevy II has a bolt-on front end structure which can be removed as an assembly from the body. Front fenders are bolted on to ease service. THE END. NOW TURN BACK TO PAGE 41

Regional IGOA Planned

With representatives from Rhode Island, New Hampshire, Massachusetts and Connecticut present, a group of Independent Garage Owners met at Newton, Mass., in September to lay the ground-

work for an IGO of New England. Roger Goyette, New Bedford, Mass., was named temporary man, with Ralph Courter Fitchburg, Mass., as vice chairman and Peter Dinelli, Manchester, N.H., as chairman of arrangements for the next meeting to be held Dec. 2.

A new IGO unit has been formed at Providence, R.I. with 34 members. Charles Ballou is chairman, and J. E. Morra, Taunton, is vice chairman.

At Fall River, Mass., a unit has been formed with Andrien Nadeau, president, J. A. Nadeau, vice president, and Louis Viveiros, secretary.

Peter N. Caramos has been elected president of the Taunton, Mass. unit. Henry Bloom is vice president and Stanley Markowski, Taunton, is secretary.

Rapid City, S. D., garage owners have formed a new unit. Leo Burn is president; Gordon is vice president, and Bob K. is secretary-treasurer.

Straub New Head Of Ohio IGO

Robert Straub, Cleveland, has been elected president of the independent Garage Owners of Ohio.

The new first vice president is Mitchell Mooney, Cincinnati, while John Papik, Akron, is the second vice president. Vendetti, Youngstown, is third vice president. John Hall, Toledo, has been elected secretary-treasurer and Harold Richmond, Harlan, is the new sergeant at arms. Grindle continues as executive director.

Ollie Rideout, Toledo, has been named state delegate to the Ohio IGO.

Among the 10-point success program proposed by Grindle was the development of a business management course, a clean-up and paint-up day to improve members' shops.

Hupp Buys Hercules

Hupp Corp. has acquired Hercules Motors Corp., manufacturer of gasoline, Diesel and liquid petroleum engines. Hupp's primary volume is in the field of heavy equipment and its products include conditioning, heating and industrial processing equipment.

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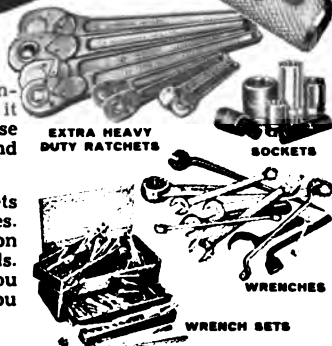


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- ④ Simple to clean—only tool required is a Phillips screwdriver (wearable parts may be individually replaced)
- ⑤ Thin handle with knurled grip

- ⑥ Hole in handle for convenient hanging
- ⑦ Fine-toothed gear
- ⑧ Easy ratcheting action
- ⑨ $\frac{1}{4}$ ", $\frac{3}{8}$ ", and $\frac{1}{2}$ " square drives (two handle lengths in $\frac{1}{2}$ " drive)

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re at End Work

from page 59

the shop. Meanwhile wages paid as usual.

are trained in the shop, they will continue even if they are not producing during the period of training. The shop must assume these costs as the initial investment for the new operation.

Final consideration, and the biggest, is cost for equipment. It has been men- tioned already that the type of equipment purchased will be gov- erned by the space available in a shop and by the amount of money a shop wishes to invest. If it be for a simple tool or a specialized machine, the invest- ment must be thoroughly studied and decided.

Cost Figures Given

To get a rough idea what align- ment equipment costs, here are approximate figures. For a basic type setup, which will occu- py a permanent place, cost will be about \$1,600. Ramp-type alignment service racks complete with instruments cost about \$2,500. This includes a magnetic caster, camber and steer- ing inclination for \$80, toe-in for \$35, portable turning radi- us for \$140.

Permanent installations, ap- proximate prices are: Completely portable projection-type aligner with floor level and pit for \$1,600. Ramp-type alignment service racks complete with instruments cost about \$2,500.

These prices may sound like a large investment, but manufac- turers of alignment equipment will credit terms for installment

payments, as will independent fi- nance companies.

The price of any shop equip- ment is eventually paid for from the money made using the equip- ment. Alignment tools are no ex- ception. Since the investment in such equipment is not a small one, a formula can be used to deter- mine how quickly equipment can pay itself off and earn a profit.

Estimate Annual Gross

First, assume an income from only one job per day on the equip- ment. Multiply it by the approxi- mate number of working days in a year—300. Then, compare the pos- sible annual income with the price paid for the machine. For instance, if the charge for wheel alignment is \$8 and one alignment job is done each working day, this will gross \$2,400 for the year.

Finally, consideration must be given to promotion. Having good equipment doesn't automatically guarantee business. Customers and non-customers must know that alignment service is available. Ads in local newspapers, flyers placed on windshields, shop signs, banners and even radio spot commercials can spread the word. Here again, many alignment equipment mak- ers lend a hand with their materi- als, experience, and talents.

Despite the initial costs, the prof- it possibilities of wheel alignment are exceptional. With proper plan- ning and good preparation, it can be made a successful addition to any repair business.

THE END. NOW TURN BACK TO PAGE 60

Can You Name It?

Answer to problem on page 145

The car is a 1925 Auburn.

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Rusted Bolts
nuts, screws, "frozen" parts!

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FOX

**METHODS AND EQUIPMENT
FOR SELLING AND
SERVICING BATTERIES**

Leading Automotive Manufacturers in November 1961 MOTOR

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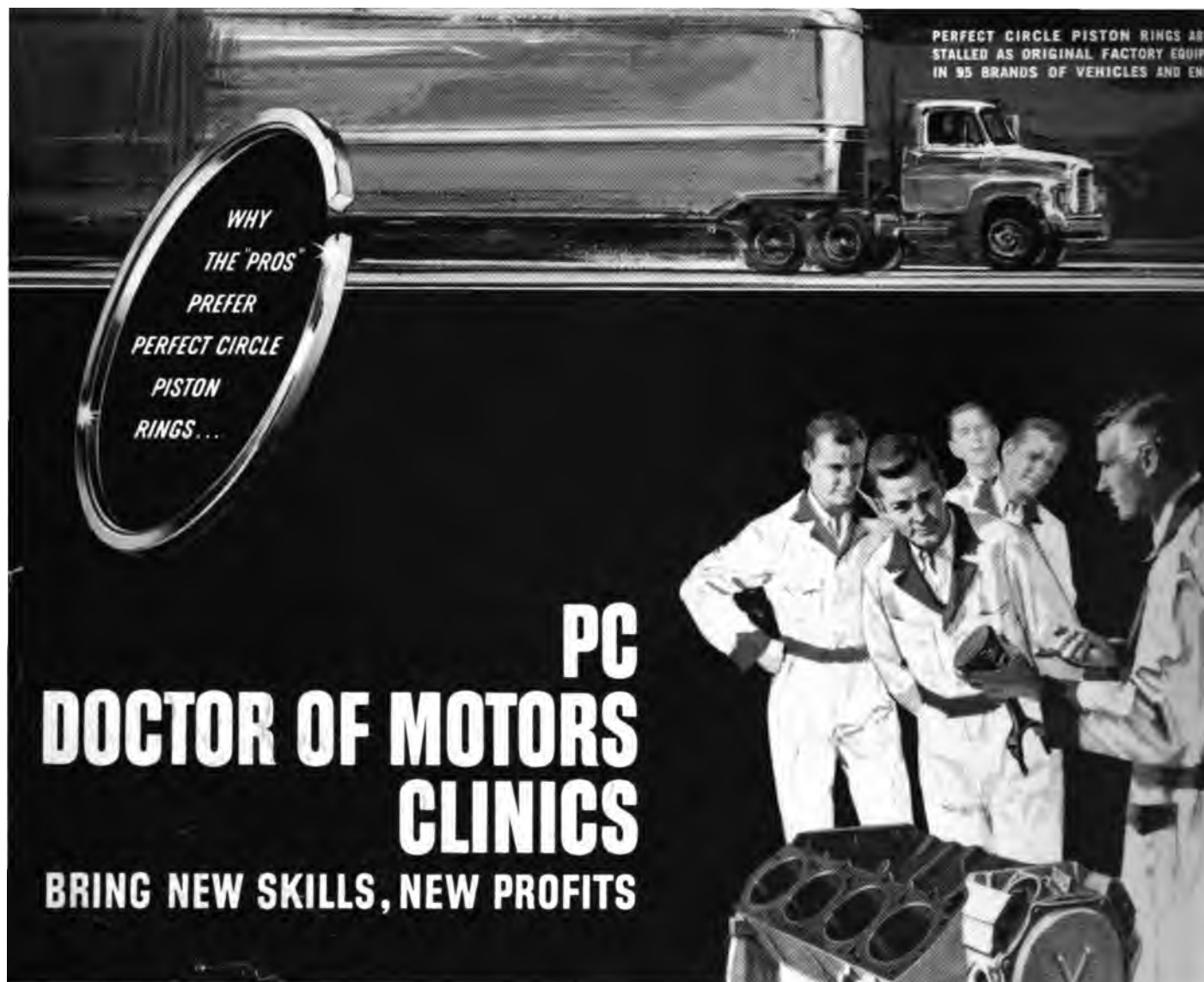
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MOTOR, December 1961



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AS **MOTOR** GOES TO PRESS

Last-Minute News . . What It Means . . What's Ahead

Dealer Hopes for 1962 High as Car Sales Soar

Seldom since the shortage-born boom days of the late 1940's have dealers been so content with sales and profits as they are as the present year draws to a close. A minority, handling the two or three lines whose 1962 models have not clicked with buyers, does not share this feeling but the others see bright prospects for 1962.

Output and Sales Due To Drop This Month

With the holidays coming up, the outlook for both production and sales is less glamorous than last month. Factories are scheduling 625,000 cars for December but holiday absenteeism may cut the total. This would be 21,000 under November production. If achieved, the December mark would make the final 1961 quarter the best in history.

Record Would Boost Public Confidence

Factories will strain every muscle to hang up the record because of the psychological impact it would have on the public. It would indicate to any waverer that the industry is confident that 1962 shapes up as a strong year.

Boom November Sales Boost Dealer Profit

November was a boom month for dealers as sales reached an estimated 592,000, including 30,000 imports. This compares with a total of 510,563 in November last year. More important, most of the deals were written at peak gross.

Shortages Hinder Retail Deliveries

Despite the increase in stocks last month, a good many dealers are short. As December opened, dealers held 745,000 cars, or about 24 each. This is not enough, in view of the many models. Shortages are reported in all lines, from luxury brands to such star sellers as Chevy II and Meteor. Situation will change this month as output passes sales.

Used Cars Feeling Impact of Compacts

Used cars blew hot and cold last month as older models advanced \$5 to \$10 and late ones, 1961's in particular, slid \$25 to \$50. The situation is a paradox, as sales are strong, stocks slim. A possible reason is, used wares are feeling a squeeze from the low-cost new cars, compacts and in-betweens.

Warranty Claims Up On Post-Strike Cars

In their haste to make up for production losses suffered during the wave of short strikes that crippled the industry last fall, some factories let the bars down on final inspection and dealers are now paying the price for the sloppy work quality controllers let slip past. Customer warranty claims were outsize last month, as dealers sought to patch up the mistakes that should have been corrected at factories. Retailers are advised to check all stock they received just after their factories signed new labor pacts.

Chrysler Talent Hunt Detoured

Series of top-level promotions at General Motors last month killed any hopes Chrysler may have had of attracting GM talent to its banner. To be fair to Chrysler, it should be noted the company has not been shopping GM's bottomless bin of executives for some months.

Bracket Pricing Back in Favor

Although there continues to be considerable overlapping of prices of standard-size cars, an analysis of prices of compacts and mid-size makes shows factories are getting back to the idea of leaving a spread between prices so as to position their wares in specific brackets. Tags on lowest-priced Buick Special and F-85 illustrate the point. Where those brands were priced right on top of each other last year, 1962 counterparts are separated by a difference of \$100 or more.

Good Dealer Profits Expected to Continue

Excluding a couple of divisions now suffering from slow sales, factory slide-rulers say

majority of dealers stands to make more money in the quarter now closing, October-December, than was made in all the first nine months of 1961. For whatever factory opinion is worth, Detroit looks for profits to continue strong in first-quarter 1962, although earnings are not expected to run quite as high as in the present period.

Dealers Holding No 1961 Models

At opening of business next month should see a nearly clean sellout of old model merchandise. Going into January 1961, retailers carried an estimated 85,000 old model leftovers. Now dealers still have a supply of 1961 demos to dispose of, but showroom stock is almost zero.

In-Between Orders Startle Detroit

Dealer orders for the new mid-size makes - Chevy II, Meteor and Fairlane - are topping anything Detroit has experienced since the Korean War a decade ago. If dealer demand for the merchandise is indicative of public acceptance, the compacts are in for some rugged competition from the in-between size vehicles. Dealers have not yet had enough of the new cars to plumb depth of the market.

Chrysler Resumes Factory Service

Chrysler Corp. is abandoning an experiment in service which it undertook a few years ago in New York, when it closed its own service branch and arranged with two independents, one on each side of Manhattan, to provide warranty and other service for owners of Chrysler Corp. cars. Chrysler has now taken over one of the shops and is erecting a building to perform the work previously handled by the other independent.

Dealers Get Hurt By Hiking Prices

A few greedy operators who have been hiking prices, after quoting the customer a so-called "firm" price, are getting their fingers burned. Gimmick is to inform the customer he can't have the car at the price agreed upon because, (1) Detroit increased prices to pay higher wages or, (2) Dealers have to get more since the cars are in short supply. Customers are demanding their deposits back, and getting them, too. A dealer who does not refund runs the risk of being charged with reneging on the first deal, a legal contract in many states.

Factories at War Over Warranties

Detroit is watching its hottest feud in years as a result of service claims advanced by some manufacturers. Engineers and service managers for different companies, who normally are chummy with each other regardless of competition between their respective employers, are warring over service recommendations. Gist of the trouble is this: Company A is worried that Company B's assertion that its

products require less service than A's could hurt A's sales. Difference may require arbitration by the Automobile Manufacturers Assn. if the contention goes on much longer.

Plymouth-Dodge To Divorce Styles

Next versions of Plymouth and Dodge will show less overlapping on styling than current cars, although relationship will still be more obvious than, say, Buick-Pontiac. Corporation aim, after present body shell has run its course, calls for establishing each brand as a separate entity, a product philosophy Chrysler always practiced prior to this year.

Abernethy Headed For Top AM Spot?

Naming of Roy Abernethy, former sales chief, to the post of general manager of American Motors is seen as a preliminary to Abernethy's taking over top management of the company if AM president George Romney decides to run for political office. Abernethy will continue to keep a hand in sales while gaining wider experience in non-sales phases of the business.

Brief but Important

Car makers have already placed orders with paint suppliers for special hues to be offered as options next spring....Meteor, on sale only a week, added a bucket-seat model, the S-33....Cadillac is also offering an added starter to its new line, a Series 62 four-window sedan, its 13th model.... Dodge dealers are doing their most profitable business with their highest-priced merchandise....As predicted by MOTOR last August, Oldsmobile is walking off with leadership in the medium-price field, a market segment defaulted by other producers....Chrysler Corp. advertising expenditures are near an all-time top....Advertising agency handling a car account found its relations with the client somewhat strained when a wag, asked to compile a list of names to designate the company's mid-size car, suggested it be called "the change of life model"....Upturn in business invariably brings out the unpleasant side of a few factory officials, who adopt an arrogant attitude in their treatment of dealers, the public, press and suppliers when sales boom. If we can count on this barometer, 1962 should be a banner year.

Service Volume Spurs
With Cooler Weather

After an encouraging pick-up in October, demand for service gained momentum last month for most service shops and garages. The chief reason, of course, was cooler weather and the desire of owners to get their cars ready for winter. Added to this was an upswing in mechanical service which in many cases had been deferred. Service managers and garagemen look for the usual sag in volume over the holidays but foresee a strong rebound in demand for service and repairs after the first of the year.

Jobbers Expect
1961 to Show Gain

Fourth quarter sales have improved so much for the majority of jobbers they look for 1961 to top 1960 by a substantial margin. November business ran 6 to 8 per cent ahead of a year earlier, erasing any losses incurred in the second and third quarters. What makes the gains more welcome is the fact they were scored in face of heavy losses in antifreeze business. Collections are now somewhat easier and inventories down.

Competitors Uneasy
Over Ford Co. Suit

Justice Dept. suit seeking cancelation of Ford's acquisition of two Electric Autolite plants and the Autolite name could have a long-lasting effect on outlets handling Autolite lines. Until the Justice Dept. action is resolved in the courts, which could take years, company is likely to move with extreme caution in merchandising Autolite products and signing distribution channels to avoid any activity that might give Justice fuel for its complaint. Ford competitors, far from being jubilant over the company's troubles, wonder what will happen to them if the government wins the case.

Ford Marketing
Rotunda Parts

Ford Motor Co. is distributing a new line of replacement parts called the Rotunda line.

These are for cars other than Ford Co. vehicles. They will be sold through Ford dealers only and not, as with Autolite Div. products, through parts centrals and wholesalers.

Number of Corvair
Models to Be Cut

Mix of Corvair models will be narrowed down to a few fast-selling styles during 1962 if Chevy II continues to sell at its present pace. Chevrolet will not "orphan" any Corvair models during course of the 1962 run, but will drop the dull selling designs when output of 1962's ends late next summer.

Sales Will Top
Output This Year

Final count on car production for the calendar year, upcoming early next month, is expected to run slightly over 5,500,000 units, a decline of nearly 1,200,000 cars from last year's total. Story will be just the opposite on sales, with this year nosing out 1960.

New Chrysler Style
To Be Felt in 1964

Chrysler's new styling chief, formerly with Ford, will not put his imprint on any Chrysler products until 1964 models, as company is largely committed on tooling for its 1963 models. He will have "a 10 per cent voice" on 1963 models, according to a company source, but will not be able to express his ideas in full until two years hence.



Contact!

Any serviceman who is on his toes will have as many contacts with his customers next year as he ever had.

If the new cars are service-free, as rumor has it, the service departments of the car manufacturers haven't heard of it. Manuals still call for frequent inspections, and the long-interval lubrication recommendations are hedged about with all kinds of ifs and buts.

On General Motors cars, for example, the longer oil-change interval is not 4,000 miles for the average driver but only 833 in winter. Why? Because the recommendations say 4,000 miles or 60 days in summer, whichever occur first. Time in winter is cut to 30 days. The 10,000-mile-a-year driver rolls only 833 miles in 30 days.

Ford shortens its oil-change period if any filter other than the recommended one is used. American Motors' 4,000-mile interval is based on "normally favorable conditions."

Similar qualifications apply to chassis lubrication. Pontiac, recommending 35,000 miles, advises earlier attention if noise develops.

Sealed ball joints, supposed to be good for 32,000 to 35,000 miles, must be inspected frequently. Cadillac advises that this be done at every other oil change. Chrysler calls for inspection every 4,000 miles.

From all this, the obvious course for a serviceman is to keep pounding away at the necessity of regular inspection. The big advantage of periodic visits for lubrication was not so much to sell oil and grease as to set up the customer for added work.

Once a shop can persuade a customer to come in just as often for inspection, the same end is served. Aggressive shops are not thinking about going out of business but about going out for business.

EDWARD FORD
Editor

CHAINS REVIVING TO

This increasingly troublesome type of competition can be licked by one-store retailers who have the patience to wait it out as they did a few years ago

By Robert Lund
Detroit Editor of MOTOR

An old threat to the dealer franchise system is trying for a comeback. The chain-store concept of car merchandising, a form of retail razzle-dazzle that had its wild wings clipped a dozen years ago, is elbowing its way back in the business. As it was the first time around, in the late 1940's and early 1950's, the development is a source of concern to dealers doing business by conventional methods.

How far can the concept be expected to spread? Does the resurgence of the chain portend the demise of the old-line, one-outlet dealer? Where do factories stand? Is Detroit off on another orgy of blitz selling and overcrowding of territories?

Before dealers can draw a bead on the beast, they have to know what he looks like. A chain operator is not to be confused with an automobile supermarket, discount house, catalog store, bootleg setup, or stimulator, although his activities may be as distressing to other retailers as the fandangos of any or all of those wheel-and-dealers.

Represents One Maker

The chain operator is an authorized dealer representing a single manufacturer. He may or may not discount, bootleg, or flout convention via other gimmicks, but the basic difference between his operation and his competitors is that, instead of running one dealership or a maximum of two, he has a string of stores. Other than that, his operation may be completely orthodox.

Putting together an image of a typical chain operator from information supplied by dealer rivals and a factory dossier on one of the most successful promoters in the business, he is usually a postwar newcomer, young (in his early 40's or under), fairly well heeled financially and a lone wolf in that he does not join or participate in activities of the local dealer group. If he is a member of the local association, he uses it as a means of keeping tab on his competitors. Before entering business for himself, he worked for two or three of the top dealers in the territory, either as general manager or sales manager. Hungry for success, he is a hustler and puts in a seven-day week.



Detroit has turned to chains as a matter of economic necessity. Although there is no shortage of would-be dealers, novices who would like to try their hand at the business, there is a scarcity of talent combining the vital factors of know-how and capital.

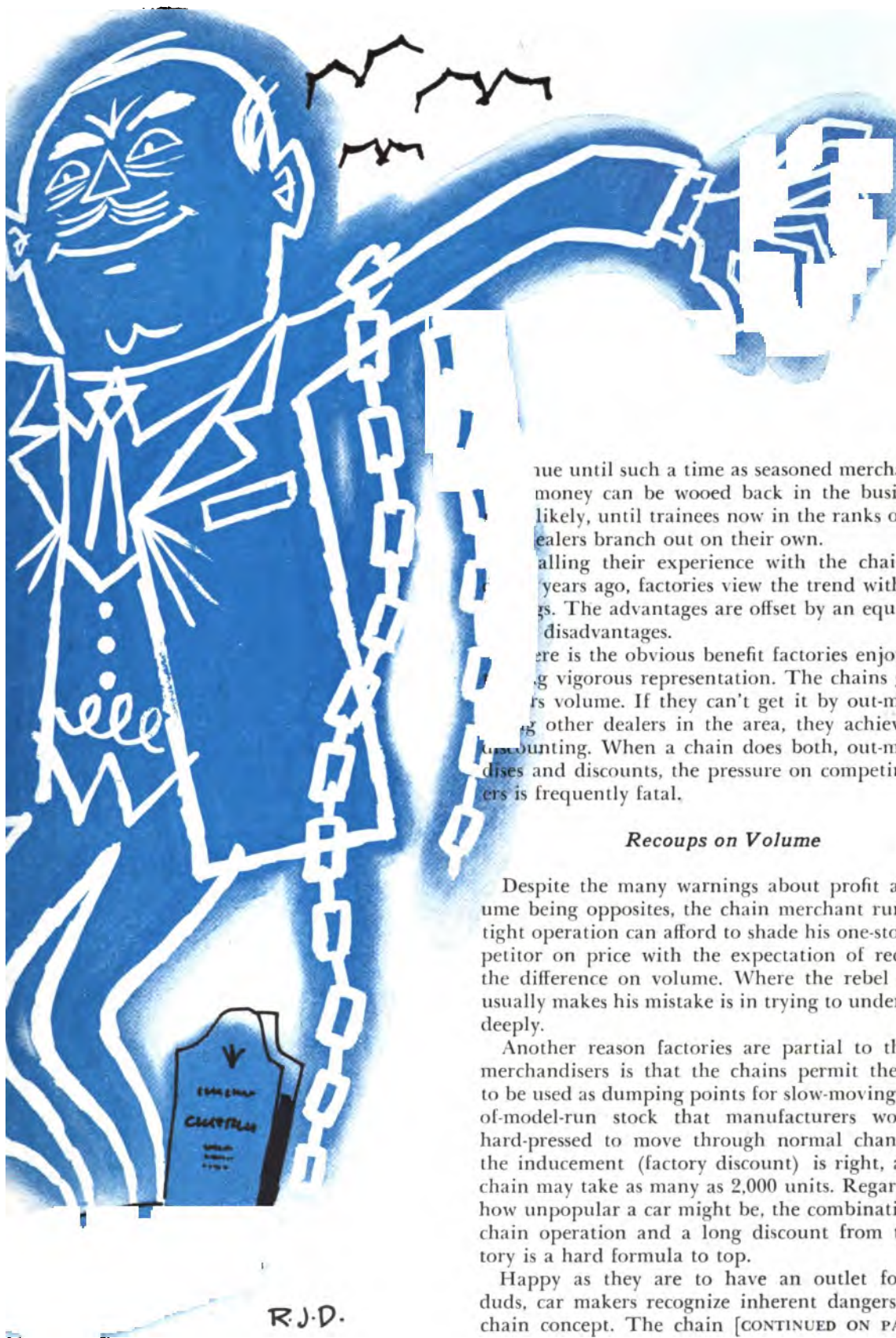
In seeking replacements for merchants who drop out, Detroit wants dealers who will do more than merely provide a showcase for the product. "Too many dealers give the impression they're in the warehouse business," a sales manager complains. "I want aggressive representation, not a place to store the cartons."

Car makers see the chain as an interim solution to their problem of obtaining strong representation. The trend to network outlets will, in all likelihood,

The multiple-deal operator, thought safely interred not long ago, shows disconcerting signs of renewed life



UNIT DEALERS



...ue until such a time as seasoned merchandisers money can be wooed back in the business or, likely, until trainees now in the ranks of ortho-dealers branch out on their own.

...alling their experience with the chains of a years ago, factories view the trend with mixed gs. The advantages are offset by an equal num-disadvantages.

...ere is the obvious benefit factories enjoy in ob-...g vigorous representation. The chains give car-rs volume. If they can't get it by out-merchan-...g other dealers in the area, they achieve it by-...ounting. When a chain does both, out-merchan-dis and discounts, the pressure on competing dea-lers is frequently fatal.

Recoups on Volume

Despite the many warnings about profit and vol-ume being opposites, the chain merchant running a tight operation can afford to shade his one-store com-petitor on price with the expectation of recouping the difference on volume. Where the rebel retailer usually makes his mistake is in trying to undercut too deeply.

Another reason factories are partial to the mass merchandisers is that the chains permit themselves to be used as dumping points for slow-moving or end-of-model-run stock that manufacturers would be hard-pressed to move through normal channels. If the inducement (factory discount) is right, a single chain may take as many as 2,000 units. Regardless of how unpopular a car might be, the combination of a chain operation and a long discount from the fac-tory is a hard formula to top.

Happy as they are to have an outlet for their duds, car makers recognize inherent dangers in the chain concept. The chain [CONTINUED ON PAGE 108



Camber, caster adjustment is made from inside of engine compartment by loosening lock nuts, turning eccentrics on upper control-arm pivots



Air-valve solenoid is checked with wires connected and vacuum lines disconnected. Here, wire is connected before making an air test



Service Tip

These procedures can mean hours saved to repairmen when working on any of the 1962's, especially those having E-Stick drives

By William J. Moreland
Technical Editor of *MOTOR*

Mechanical changes on the 1962 Rambler mean new service procedures. This is particularly true of the E-Stick, an automatic clutch on the Ambassador and the new dual braking system with tandem master cylinders standard on all models.

The E-Stick clutch is applied by a servo, actuated by engine oil pressure, and has no thrust spring or centrifugal weights. To understand maintenance and repair procedures, it is necessary to know how it works.

When a shift is made, initial movement of the shift lever closes a switch on the steering column which operates a solenoid. The solenoid controls a valve which releases the oil pressure in the servo. A return spring connected to the linkage disengages the clutch while the shift is made. When the shift is completed, the electrical circuit is opened and engine pressure applies the servo to engage the clutch.

Oil Pressure Applies Servo

Oil pressure to the servo is modulated by a valve controlled by a vacuum diaphragm. Full engine oil pressure applies the servo when a high transmission torque is required and manifold vacuum is low. On light loads a higher manifold vacuum acting on the valve diaphragm reduces the actuating oil pressure. A dash-pot incorporated in the throttle linkage provides the time delay required to prevent engine stall when the throttle is quickly closed. A cam switch in the starter solenoid circuit acts as a neutral safety switch. Since there is no oil pressure to apply the clutch when the engine is stopped, a cable control is provided to permit parking in gear or towing the engine.

To start the engine on a push or tow, shift to neutral, second and turn on the ignition switch. If equ

With new master brake cylinder, air is bled from lines by cracking the fitting on outlet to front brakes. Then rear fitting is cracked

on 1962 Rambler

with overdrive, pull this control all the way out. Tow to reach 10 mph, pull the tow-start control handle out, and hold it out to engage the clutch. When the engine starts, push the handle in and shift to neutral.

To park in gear use reverse only. With ignition off, shift into reverse and pull tow start control handle out. Turn the handle one-quarter turn clockwise to lock it and keep clutch in drive position.

Normally, only a throw-out lever adjustment is required to compensate for wear. To make the adjustment, allow the clutch to cool, set the parking brake and idle the engine at 550 rpm with the shift in neutral. Loosen the lock nut on the throw-out lever adjusting screw. Now turn the adjusting nut to move the lever toward the rear of the car. Continue moving the lever until a slight gear clash can be noted when the shift lever is moved slowly to engage first gear; but do not complete the shift. Then back off the adjusting screw two [CONTINUED ON PAGE 110]



On E-Stick, an adjustment for wear is made by loosening lock nut on throw-out lever and turning the adjustment nut. Clutch must be cool



What Detroit Is Thinking



Booms in Figures

Not wanting to be outdone by their rivals who have the hot brands, motor makers whose products are not moving in volume have really had to scratch to come up with angles to put their wares in a favorable light.

Pegging their publicity pieces on 10-day reports, producers of the brands doing substandard business have had to reach back three and four years in some instances to find a 10-day period which, when stacked

By Robert Lund

Detroit Editor of MOTOR

against the current report, gives the impression the current car is booming.

All of which must be mighty confusing to a dealer in Four Corners who reads the publicity and can't figure out why his business is off while the factory is experiencing a boom.

Corvair a Sports Car?

Assuming Monza continues to take more and more Corvair business, a reasonably safe bet, local Chevrolet to change its marketing approach to improve image of Corvair, come 1963 models, meaning Chevrolet will withdraw its compact from head-on competition with Falcon, Valiant and company and call it a "personal" or low-price sports car.

New Dealers Costly

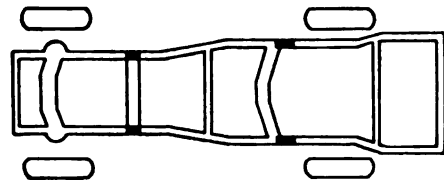
How much does it cost a factory to repack a dealer? Detroit declines to put a price tag on its outlets, other than to say the price is "plenty high" or "pretty steep."

[CONTINUED ON PAGE 110]

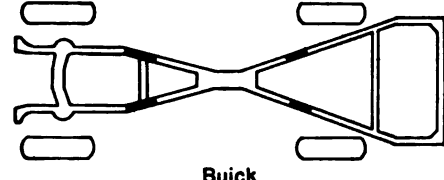
SAFE WAY TO JACK AND LIFT THE 1962's

Factories recommend these contact areas on new models

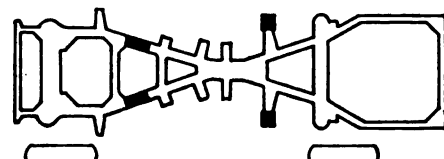
Lifting Points



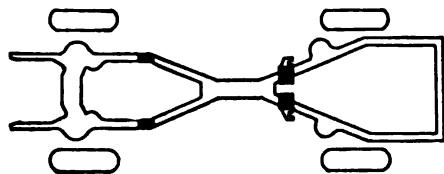
Buick Special



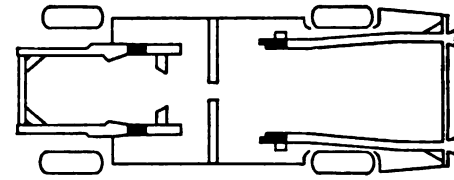
Buick



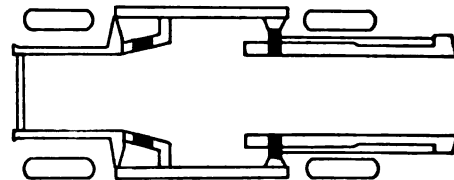
Cadillac 60 and 62 series only



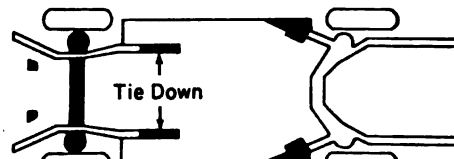
Chevrolet



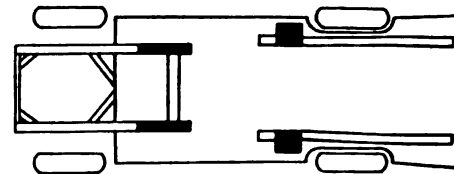
Chevy II



Chrysler, Dodge, Plymouth

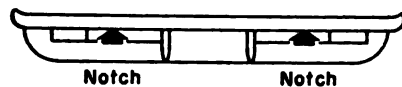


Corvair

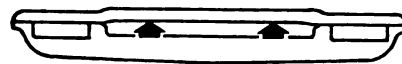


Ford Falcon and Mercury Comet

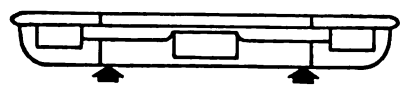
Jacking Points



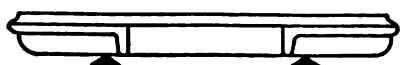
Notch Notch
Buick Special



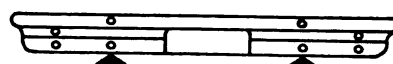
Hole Hole
Buick



Cadillac



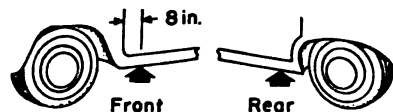
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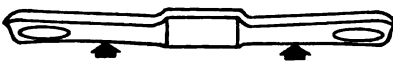
Chevy II



Chrysler



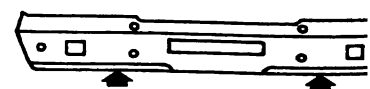
Corvair



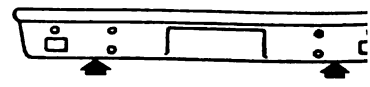
Slot Slot
Dodge Dart and Polara



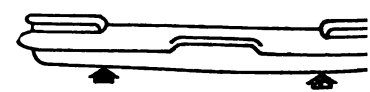
Dodge Lancer



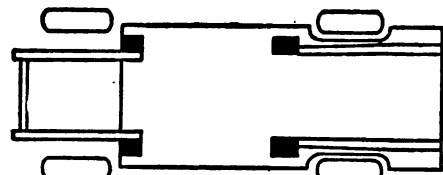
Ford Fairlane and Galaxie



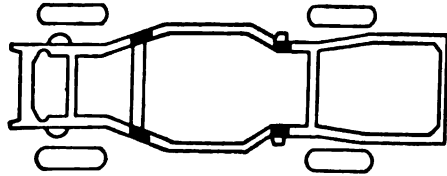
Ford Falcon



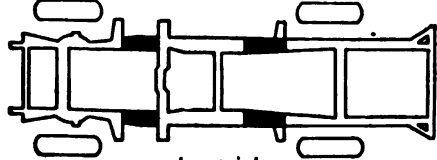
Slot Slot
Imperial



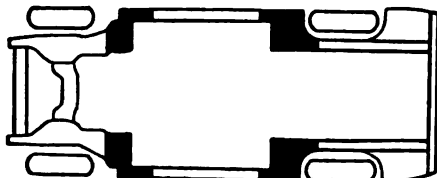
Ford Fairlane and Mercury Meteor



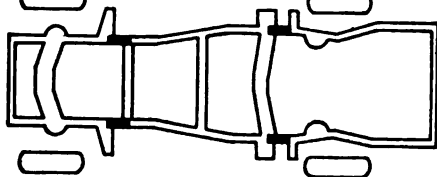
Ford Galaxie and Mercury Monterey



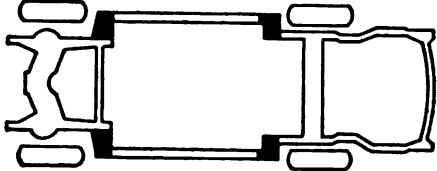
Imperial



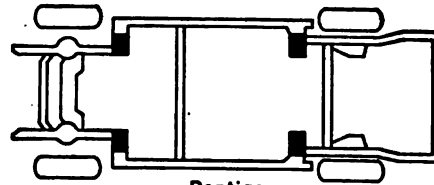
Lincoln



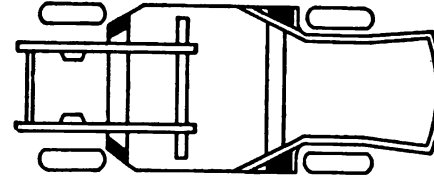
Oldsmobile F-85



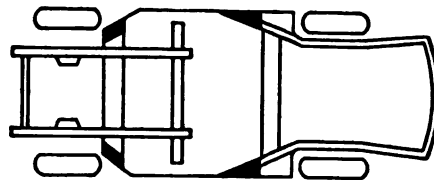
Oldsmobile



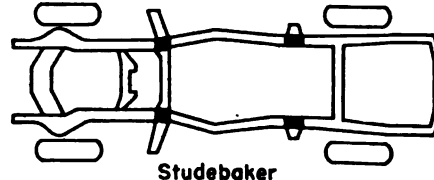
Pontiac



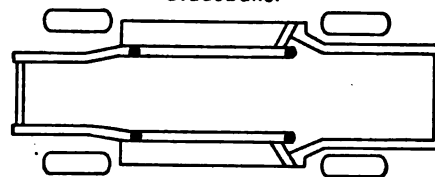
Rambler Ambassador and Classic



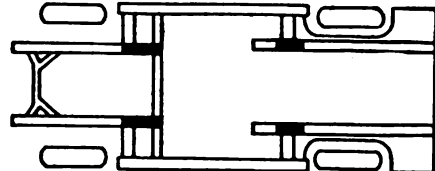
Rambler American



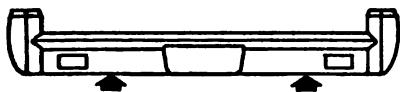
Studebaker



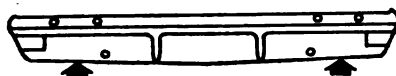
Tempest



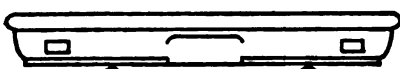
Valiant and Dodge Lancer



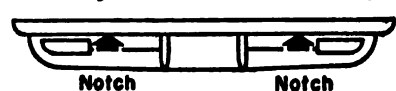
Lincoln



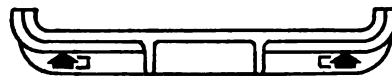
Mercury Comet



Mercury Meteor and Monterey

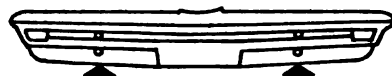


Oldsmobile F-85



Hole

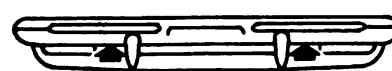
Oldsmobile



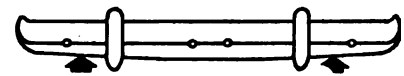
Pontiac



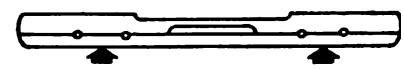
Plymouth



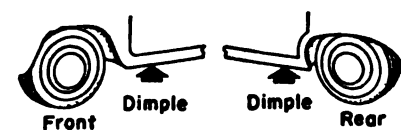
Rambler - all series



Studebaker Hawk



Studebaker Lark



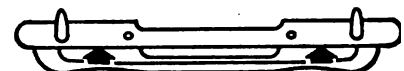
Front

Dimple

Dimple

Rear

Tempest



Valiant

HOW TO SCORE 3 PER

A top dealer here presents a formula for expense control that can take guessing and red ink out of vehicle retailing

By Martin H. Bury

President, Wilkie Buick Co., Philadelphia

Times change but the fundamentals of operating an automobile dealership remain much the same. In the year ahead, business promises to be somewhat better, but the tough competitive market seems to be here to stay. There is much talk among dealers about how to "survive." A first step toward finding the answer is to re-examine our operating fundamentals with those of successful dealers across the nation.

Prior to 1941, there was a simple formula for gauging the proper relation of volume, expense and profit. Almost as old as the industry and used as a gauge by most serious dealers, it stipulated that:

For each \$1.00 of total sales volume in all departments, \$.82 should be the average cost of sales, leaving \$.18 of gross profit.

Of this amount, \$.05 should cover the variable expense, leaving \$.13 from which the dealer should spend no more than \$.08 for fixed expense, leaving a balance of \$.05 for operating profit.

After deducting \$.02 for other deductions and taxes, this would result in \$.03 final net profit.

Then a number of things happened. World War II knocked us right out of the new car business. For four years this formula was inapplicable due to the stringent conditions of that era. Many dealers lost



Goal-Line Strategy



Martin H. Bury

Studies have shown that successful dealers operate within certain expense limitations. The pattern is consistent and distinctive. What's more, it can be followed by other dealers whose goal is 3 per cent net.

As author-dealer Martin Bury points out, these car merchants never permit salesmen's compensation to exceed 25 per cent of gross. Advertising budgets for the most part are kept within bounds of 1 per cent of total sales. Other operating cost controls are covered thoroughly in this thought-provoking article.

money regularly because of conditions beyond their control.

When the war was over, the economic condition of automobile dealers were reversed. Profits were easy. Three per cent final net profit could be attained without much effort. For most dealers that delightful situation continued right through 1955.

In 1955 unit gross profit retention was down sharply. But volume was high. A painful transition was under way. By 1961 that transition completed its cycle. And the original formula has undergone some changes.

Cost of sales, for instance, is more apt to average 8%

CENT NET

per cent because new car gross-profit retention is still below the figure necessary for proper operation of our businesses. And final net profit is closer to 1 per cent of total sales for several other reasons. Dealers have been unable to pass on to the public the increased expense of miscellaneous taxes. They have not yet completed reduction of operating expenses or elimination of wasteful practices. And too seldom do they adhere to the scientifically proved formulas of procedure.

The formula at the start of this article should still be the goal of every new car dealer. And its final figure *can* be achieved. But to do so it is necessary to break down the various components of the formula into specific details of the dealer's operation.

One manufacturer whose sales declined more than the average of all car makers since 1955 made a special survey of the operating figures of its dealers. The

survey was segmented into several divisions of two groups. The first group consisted of dealers in multiple-dealer areas—those in the 35 major market cities. The second group consisted of dealers in single-dealer towns.

Then the figures in each group were divided into (a) the outstanding dealers, (b) the good dealers, (c) the average dealers and (d) the poor dealers.

In a comparison of the four groups, it soon became apparent that the successful dealers operated within certain relative expense limitations, forming a distinct pattern. (A subsequent review of the figures of all of this manufacturer's dealers with the figures published periodically by NADA for dealers handling all makes revealed the average of both to be basically the same.) It is interesting to note that many of the actual figures of the successful dealers fitted neatly into the basic [CONTINUED ON PAGE 100]

Once a dealer avoids the perils that may lurk in the many routine phases of his business, he's on his way to profits



GIVE BATTERY PROFITS



Bumper-to-bumper driving with lights, wipers, heater and radio operating is hard on battery. Weak unit can't meet severe demands of winter

Use these field-proved selling ideas to make sure you get your share of this booming cold-weather business

By Peter Silveri

Managing Editor of MOTOR

In spring and summer some service shop operators go to elaborate lengths to boost their battery sales. One common stunt is to flip a car over, driveline up, and place the following sign alongside it: "Can your battery turn over *your* car?"

Dramatic? Eye-catching? Unquestionably! A lot of effort? You bet!

But at this time of year dazzling displays and off-beat promotions are not necessary. Batteries are easy to sell and the shop that makes a concerted effort to exploit a natural opportunity will rake in plenty of that folding green stuff.

If you have any doubts about the timeliness of batteries, consider these facts: It is estimated that last year nearly 65,000,000 calls were received from motorists in distress. The No. 1 car service call—one of every four—was because of battery and electrical trouble. The peak came in the winter months!

This spate of battery troubles can be pinned on cold weather. According to the Assn. of American Battery Manufacturers, 100 per cent cranking power is available from a fully charged battery at 80 deg. F. At 32 deg. F., cranking power plummets to 65 per cent and at zero, only 40 per cent is available. These percentages are for batteries in good condition and fully charged!

First Find the Need

Another fact worth remembering is that, to make a battery sale, you have to find a need—and find it before the battery fails. Even your most loyal customer will buy a new unit elsewhere if his battery goes dead when he's any distance from your shop.

Thus, the first step toward increased battery sales is a planned approach to spotting the need. Whenever an employe lifts the hood for any reason, he should make a visual check of the battery. Telltale signs of pending trouble are terminal corrosion, cracked or bulging cases, leaks and dirt.

Should any of these conditions be evident, check the battery. Perhaps the fastest, most accurate test is the following, which requires a voltmeter with .01 volt divisions:

First, load the battery by holding the starter switch closed for three seconds. Whether the starter

A BOOST

turns the engine or not, hold the contact for the specified time. If the engine starts, turn it off immediately.

Next, turn on the low beam of the headlights. After one minute, use the voltmeter to check for uniform readings between the cells. The battery is O.K. when any cell reads 1.95 volts or higher and there is less than .05 volt difference between the highest and lowest cell. Should any cell show less than 1.95 volts on this test, the battery should be recharged.

If cell readings are not uniform—that is, any cell reading 1.95 volts or more and a difference of .05 volts or more exists between the highest and lowest cell—the battery is defective and therefore should be replaced.

Once the need for battery replacement is uncovered, a minimum of selling effort is necessary. The following points should be mentioned to the customer:

A weak battery doesn't have a snowball's chance of starting a car on a freezing morning. Faced with this problem, the customer has no choice but to call for road service. This costs money and, what's more, the relief is only temporary.

Then, too, if a battery fails while the customer is on the road during the winter—particularly if it is snowing—he'll not only be inconvenienced but find himself in a hazardous situation.

These points may sound like scare-selling. Perhaps, but it must be done if you have any concern for your customer.

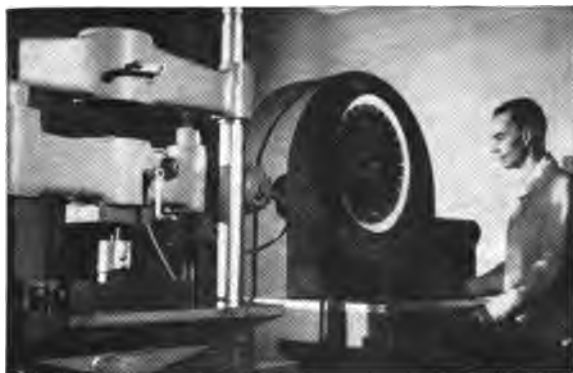
Offer Free Checks

To supplement these person-to-person activities, a shop could make up a sign for display near or at the gas pump. It can simply offer, "Free battery check." While a customer is waiting for gas, the attendant can point to the sign and ask, "How about checking your battery?"

The free battery-check angle can be pounded in newspaper ads and direct mail pieces. Most owners who suspect their batteries are not up to snuff will come a-running.

Put a little merchandising muscle behind your battery campaign now and in the months ahead and you'll turn a neat profit. And you'll be doing your customers a true service!

As Engineers See It



Look, No Hands!

No-hands driving on express highways, automatic radio car-theft alarms and a telephone exchange in the glove compartment are among the innovations which may be in store for the car owner of the 1970's. Arthur J. Runft, of the AC Spark Plug Div. of General Motors Corp., told an SAE audience how radio, radar, miniature computers and even missile guidance systems could be adapted to take over some of the driver's duties and improve his means of communication.

Guidance and control of the car can be accomplished by several methods. One system, already in experimental use, employs cables buried in the highway to transmit signals to coils on the vehicle. The coils control the power steering unit to keep the car on course.

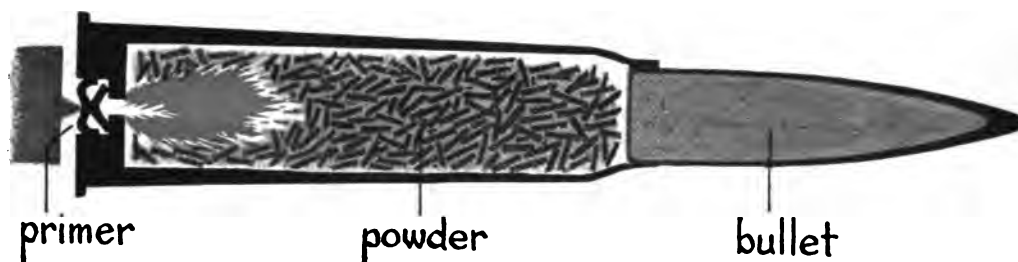
Another method requires a trough-shaped roadway or parallel retaining walls. A proximity device would automatically measure the distance of the vehicle from each side of the road and transmit the necessary signals to keep the car centered between the two boundaries. Still a third proposed guidance system involves a series of roadside antennas, which would transmit steering signals to passing vehicles.

Directional control alone would not be sufficient on the automatic highway. Radar or some other proximity device would automatically apply the brakes of a car if it came too close to another vehicle. Computers in the highway control system would keep track of all vehicles on the highway, maintain proper spacing and automatically feed entering vehicles into vacant slots.

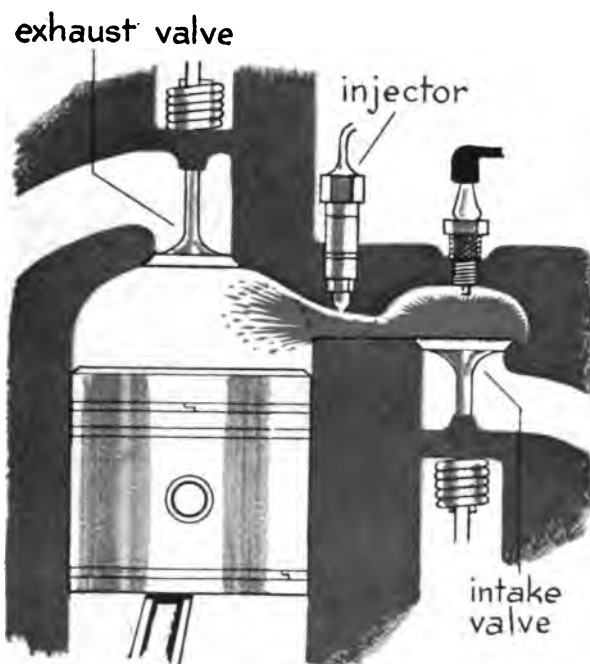
Even before the adoption of such elaborate systems, radio and radar warning devices can be used to alert the driver to obstacles in the road or other unsafe conditions. A simple [CONTINUED ON PAGE 109]

ENGINES THAT BURN LESS

They aren't here yet but experiments bring nearer day when powerplants will run on lean mixtures and almost any propellant that happens to be around



Two-step ignition. In cartridge above, primer flame fires powder



Left, in stratified-charge engine, normal mixture is fired in auxiliary chamber. Then flame ignites lean main-chamber charge

By Walter O. Koehler

Engineering Editor of *MOTOR*

Cheap fuels and plenty of free air may be the prescribed diet for tomorrow's engines. Spurred on by the apparent public demand for fuel economy, engineers are developing powerplants which operate on lean mixtures and burn liquids ranging from gasoline and jet fuel to No. 2 Diesel oil. A prominent engineer for one of the Big 3 has predicted that one experimental design, known as the stratified-charge engine, would deliver 30 to 40 per cent more miles per gallon than today's powerplants.

It is well-known that the efficiency of a conventional gasoline engine falls off badly at light load and low speed. Power is regulated by changing throttle

position to control the quantity of fuel and air entering the cylinders. Mixture strength must remain within a relatively narrow range whether the engine is developing maximum power or merely idling.

By contrast, power of a Diesel engine is controlled by varying only the amount of fuel injected into the cylinder; the air is not throttled. As the load decreases, smaller quantities of fuel are mixed with the same amount of air, resulting in extremely lean mixtures. When the vehicle is decelerating or coasting downhill, fuel is shut off completely and the engine merely pumps air.

Because engines in passenger cars and light trucks are seldom called upon to produce more than a fraction of their maximum horsepower, improvement of part-throttle economy would result in substantial increases in over-all fuel mileage.

One answer is the small Diesel, which is under consideration by at least one American car maker, for possible use in taxis, door-to-door delivery service and light farm trucks.

There is considerable doubt in the minds of most engine designers, however, that the Diesel will achieve wide acceptance in the passenger car field. Because of the high combustion pressures developed and the extremely high rate of pressure rise in the cylinder, noise and combustion roughness pose more of a problem than in a gasoline engine.

New combustion chamber designs, more widespread use of lighter materials and simplified fuel-injection systems will help to overcome these traditional objections to the Diesel, but most engineers are

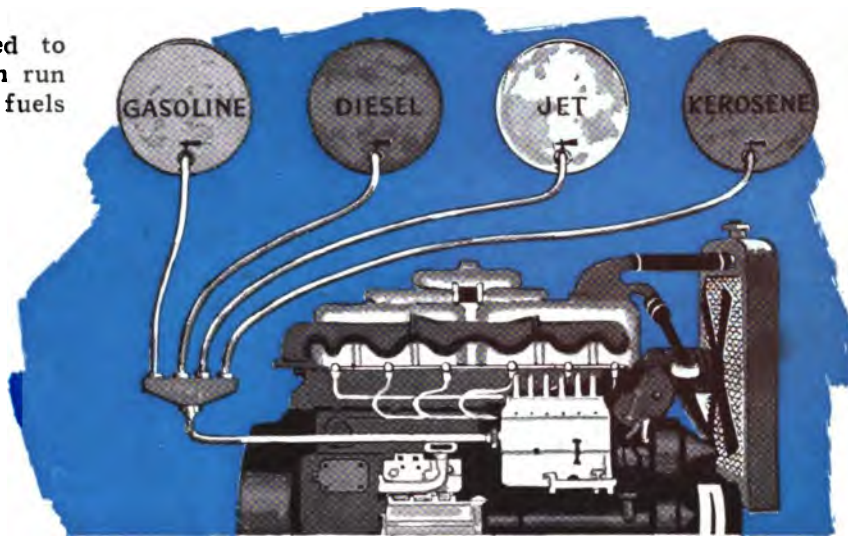
AND CHEAPER FUEL

Diesel engine, converted to multifuel operations, can run equally well on several fuels

looking elsewhere for the solution to the problem of high fuel consumption at light loads.

One of the most promising approaches is the stratified-charge engine. In this system, two separate charges, one lean and one of normal strength, are burned in the same cylinder. To understand how it works, think of the firing of a rifle cartridge. A small charge, called the primer, is easily ignited by the blow of the firing pin. Flame from the primer travels through a small flash hole to set off the main powder charge and drive the bullet through the barrel.

In the stratified-charge engine, a mixture of normal strength is ignited by the spark plug. This mix-



ture acts as a primer to fire a leaner charge in some other portion of the cylinder.

Charge stratification can be accomplished by several methods. One of the simplest is utilized in the Broderson engine, the invention of a Rochester, N. Y. business man. While a [CONTINUED ON PAGE 123

Capital Close-Ups

By Bert Mills

Washington Editor of *MOTOR*



GM Case Threatens Franchises

Importance of the California indictments against GM and dealer groups is that the government seems to be challenging the franchise system. National Automobile Dealers Assn. was so disturbed by the threat that it held a special meeting of its directors. All that was released was an "iffy" statement promising NADA "will follow developments closely to determine the full impost of this litigation on the franchise system."

The Justice Dept. charged the defendants with conspiring to halt sales of new Chevrolets through discount houses—a practice Justice estimates has zoomed to the 2,000-cars-per-day level in California.

Justice seeks to prove GM threatened to boycott dealers doing business with discount firms. GM denies any restraint of trade although conceding the company "expressed its views to all dealers on the undesirability of selling through discount houses."

Undoubtedly, some government reformers would like to see car makers forced to grant franchises not only to discount firms but to retail chains. The inevitable result would be to undermine the franchise system and put small dealers out of business.

Backs Do-It-Yourself Repairs

Automotive craft shops at military camps are becoming increasingly popu- [CONTINUED ON PAGE 121



"That's interesting," Wes said, shaking the snow from his coat. "I hear you were actually talking to a customer this morning but didn't recognize him"

When to Break the Rules

It is any time, says Cap Moran, that such action can benefit a dealership both now and in the future

Wes Moore, the sales manager, shook the snow from his overcoat as he entered the salesroom.

"Watch with that stuff," said Lou Butterworth, the used car manager. "I'm allergic to snow."

"I thought you might be. Otherwise you'd be out in the shack where you belong."

"For your information, old pal," said Lou, "the heater's busted and I ain't gettin' pneumonia. I can tell the difference between a prospect and a looker from in here."

Wes removed his coat and then his hat and shook the latter free from snow. "That's interesting," he said. "I hear you were actually talking to a customer this morning but didn't recognize him."

"Customer!" snorted Lou. "A wholesale buyer."

"I don't see what's so different. Especially if he's willing to take a load of old iron off the premises."

"You ain't dealt with a wholesale buyer lately. They ain't in the habit of buyin' up iron. They gotta have the cupcakes, too."

"Cupcakes?" asked Wes.

"Cream puffs they used to call 'em back in your day. But no matter what you call 'em, you gotta let the wholesale buyers have 'em if you want to unload your clinkers."

"Is that against any law?"

"My law," said Lou. "You can't wholesale used cars and retail 'em, too. It's like bein' half honest or bein' married to two women at the same time. It won't work."

"Ever try it?"

"Yeah, I tried it, and that was the last time. You gotta have rules in this business and one of my rules is, don't have nothin' to do with wholesalers."

Wes threw his coat over his arm and flicked the droplets from his hat. "You probably won't be interested," he said, "but I happen to know you're up to here in used cars and you're lousing up new car sales for us. Every time one of the boys asks you to appraise a trade-in, you crack that we're loaded with that model."

"I ain't told nothin' but the truth," said Lou. He unsheathed a fresh cigar and lighted it.

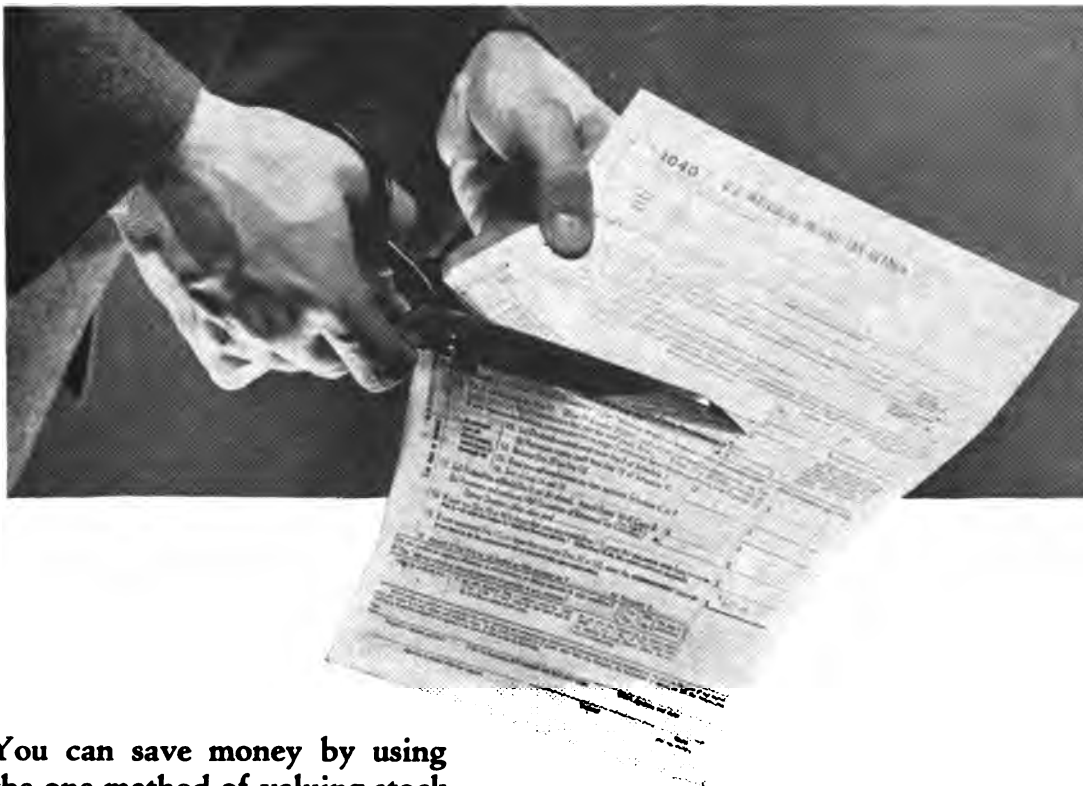
"It's time we had a showdown."

"So you're goin' to run to Cap with your troubles?"

"Let's say I'm going to ask for a little enlightenment."

"You mean," said Lou, after a hard drag on his cigar, "that you want to get [CONTINUED ON PAGE 104

Inventory Can Cut Income Tax



You can save money by using the one method of valuing stock that suits your individual needs

When your inventory is overvalued, the gross profit of your business is overstated. Thus, the amount of income taxes you must pay is higher and your profit after income taxes is lower.

Since cost prices are steadily increasing and the income and property tax rates are advancing, it is important for you to consider your inventory valuation carefully.

The Internal Revenue Service approves five methods of inventory valuation:

1. . Cost
2. . Cost or market, whichever is lower
3. . Retail
4. . FIFO (First-in-first-out)
5. . LIFO (Last-in-first-out)

You can use any of these methods of valuing your inventory as long as you *use the same method consistently*. However, even though you have been using one method for years, this can be changed with the approval of Internal Revenue.

Car dealers may find it advantageous to departmentalize their inventory. When this is done, the inventory of different departments of the business can be calculated separately, using the best method for the line considered.

For instance, a car dealer may decide to inventory

this used cars at the cost or market, whichever is lower, method. This eliminates any inflated trade-in price tag on the used cars inventories at year end.

New cars may be inventoried at the dealer cost. This is known and easy to calculate to give a realistic picture of the stock on hand. Parts and accessories can be inventoried at the retail, FIFO, or LIFO method to provide the best profit control for the business.

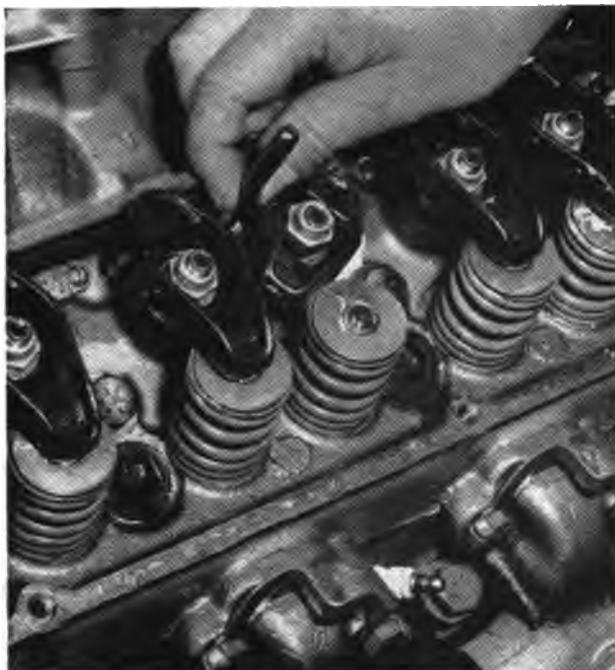
Can Use Either Method

Repairshops may decide to use either the cost or the retail method of inventory for the parts stocked. When the job tickets are made up at both cost and retail (to determine the parts profit on each job), the best method may be cost. Or, if the parts are itemized on the repair order at only the retail price, the retail method of inventory may be best.

Here are some of the points to consider in each of the approved inventory methods you may use in your firm:

Cost valuation, which is the oldest method of valuing inventory. The original cost of the items inventoried is used for the basis of the valuation. You can use your original invoice to determine the cost on each part in stock. Or you can mark the stock card for the new car with a cost code that is decoded when the inventory is taken and computed.

During a time of rising [CONTINUED ON PAGE 115]



Removing push rod from V-8. Rocker arm need not be taken off, but merely loosened and turned aside. Rockers are individually mounted on studs



Upper control arm inner-shaft bolts are loosened to permit adjustment of caster and camber. The setting is varied by moving the upper arm

SERVICE ON NEW

Procedures detailed here will help speed up work on these "in-between" series, the optional V-8 engine in particular

TO the serviceman, Ford's Fairlane and Mercury's Meteor are sisters under the skin, since they share all their mechanical components and differ only in suspension, trim and some sheet metal. Of major interest are the new V-8 engine and the front suspension, both of which require changes in service procedures.

Each car offers a choice of a 101 hp, 6 cyl. engine or a 145 hp V-8. Since the smaller engine is identical to the one used in the 1961-62 Falcon and Comet, the mechanic who is familiar with these cars should not have any trouble servicing a Fairlane or Meteor 6. The V-8, however, is completely new and differs from other Ford engines in several important respects.

With a bore of 3.5 in. and a stroke of 2.87 in., it has a displacement of 221 cu. in. Compression ratio is 8.7 to 1. Cylinders on the right bank are numbered from 1 through 4, while those on the left bank run from 5 through 8. Firing order is 1-5-4-2-6-3-7-8.

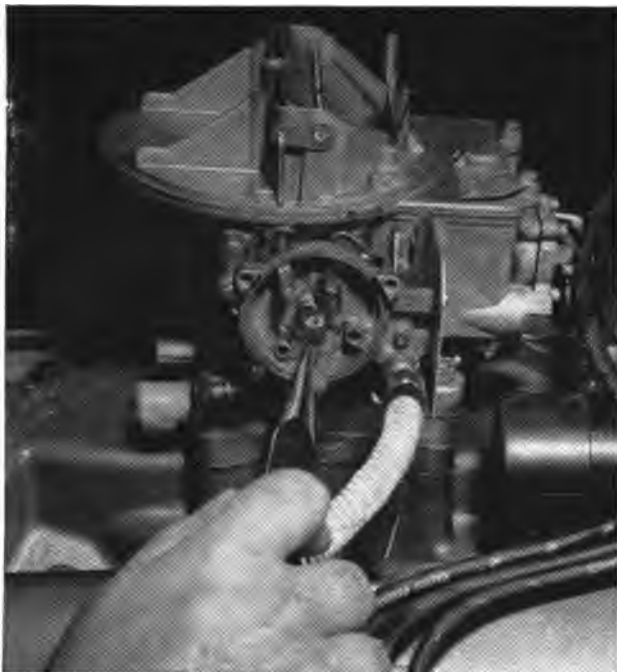
Rocker arms are individually mounted on studs

pressed into the cylinder heads. They are lubricated by oil from the hydraulic valve lifters passing through the hollow push rods. Push rods can be removed without taking off the rocker arms. Loosen the adjusting nut in the center of the arm until the arm can be lifted from the push rod and turned out of the way. Push rods and intake manifold must be removed to reach valve lifters or to take off a cylinder head.

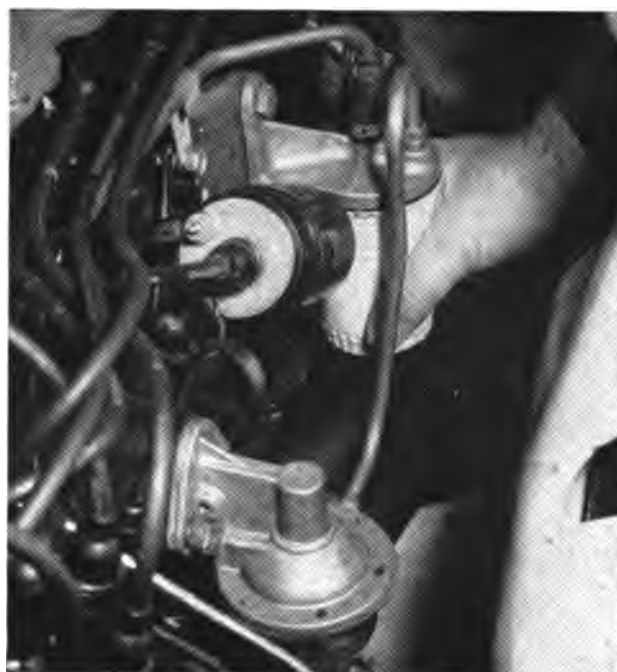
Adjust Valve Clearance

Whenever a cylinder head or any part of the valve train has been replaced, the initial valve clearance must be adjusted. To check clearance, first rotate the engine to bring No. 1 piston to top dead center on the compression stroke. In this position, clearances can be checked for intake valves of No. 1, 3, 7 and 8 and exhaust valves of No. 1, 2, 4 and 5. Collapse the hydraulic lifters by forcing the rocker arm and push rod down. With the lifter collapsed, clearance between the rocker arm and the valve stem should be .082 to .152 in. Turn the rocker-arm adjusting nut to get the specified clearance. One turn of the nut changes clearance .066 in.

After adjusting the first group of valves, rotate the engine to bring No. 6 piston to top dead center on the compression stroke. Repeat the adjustment pro-



Adjusting automatic choke opening rate. Tang of the small torsion spring is installed on one of the three prongs on end of choke housing shaft



New 30,000 mile fuel filter on 6 cyl. engine. Housing is unscrewed in same way as throwaway oil filter, but paper element is replaceable

FAIRLANE, METEOR

cedure for No. 2, 4, 5 and 6 intake valves and 3, 6, 7 and 8 exhaust valves. Intake and exhaust valves are easily identified, as they alternate from front to rear. The front valve in the right bank is an intake, while the first one in the left bank is an exhaust.

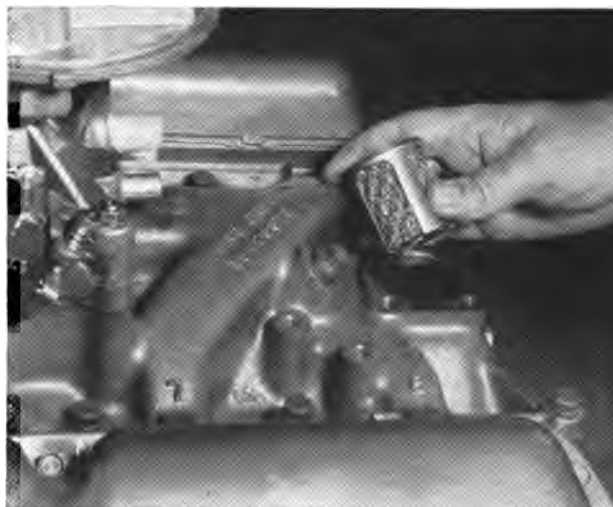
Valve guides are integral in the head. Valve stem seals are used on the intakes only. Hydraulic tappets differ from those used in other Ford engines. A disc with a bleed hole is located between the plunger and the push-rod cup and functions as a valve to meter oil to the push rods and rocker arms. Cleaning and testing procedures are unchanged, however. Leak-down rate is 10 to 80 seconds.

Standard and .003 in. oversize rocker arm studs are used in production, while standard and .015 in. oversize are available for service. If a standard stud is loose in the head, the bore must be reamed out and a .015 oversize installed.

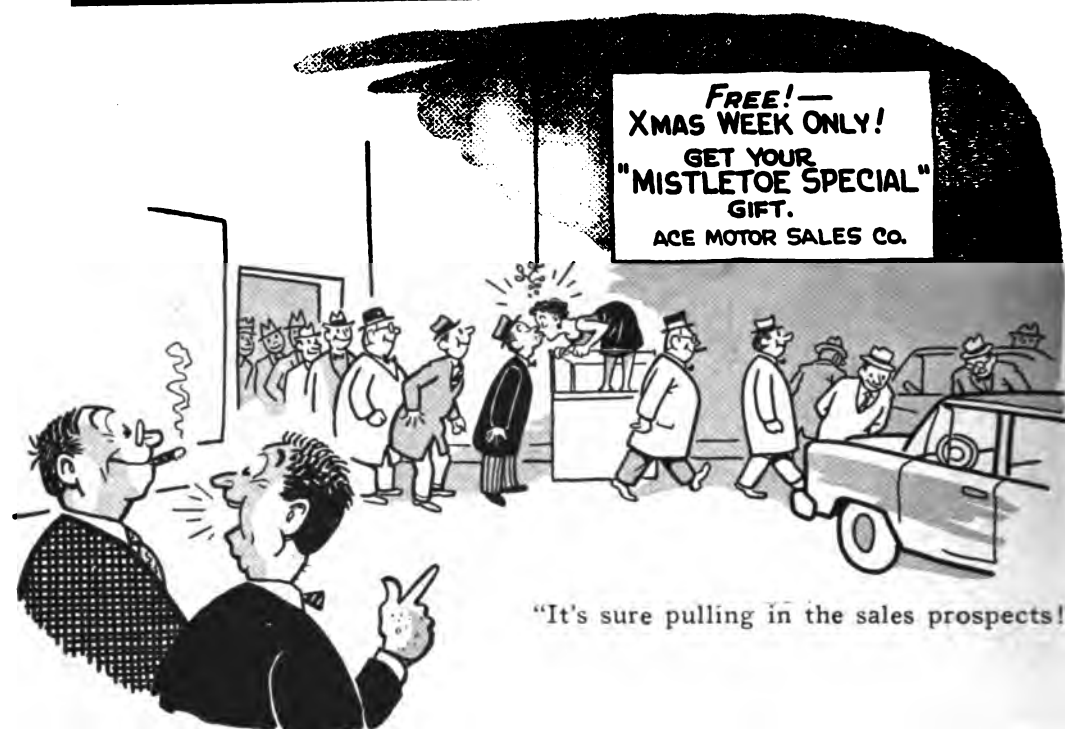
Piston pins are press-fit in the connecting rod. Specified piston ring gap is the same as for the 170 cu. in. 6 cyl. engine—.010 to .020 in. for compression

rings and .015 to .055 in. for oil ring rails. Side clearance is .0019 in. to .0036 in. for the top compression, .002 to .004 in. for the second compression ring. Oil control rails should be a snug fit.

When pistons are installed, notches in the piston heads should face the front of the engine. The numbered sides of rods and caps should be on the outside. Squirt holes should face toward the front on the right bank and toward the [CONTINUED ON PAGE 118]



Removing crankcase ventilator outlet filter from V-8 after vent tube has been taken off. Filter element is cleaned every 24,000 miles



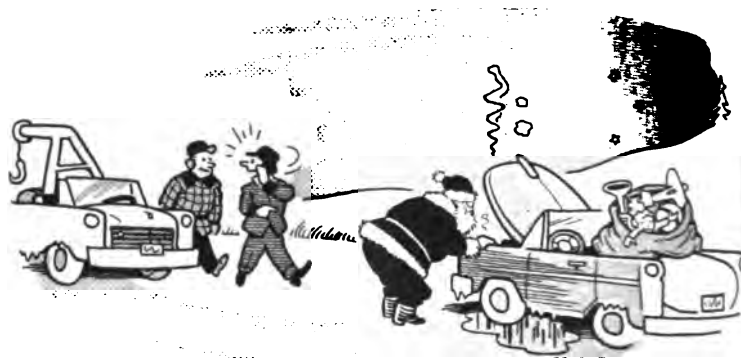
"It's sure pulling in the sales prospects!"

MODEL LINE-UP

By Graham Hunter



"The salesman told me this new car would flatten the hills. He didn't say what else!"



"Mebbe he shoulda phoned the zoo and got some reindeers to tow him in!"



"I just want a li'l ol' seat belt installed. What d'you mean, you have to get an estimate?"



"My car's in the economy class. I trust you'll bear that in mind in preparing the bill"



Checking self-adjusting lever. Star wheel will turn when top of lever is moved toward the hub



Self-adjusting lever being pushed back with an awl to permit backing off on the star wheel

Puzzled by Self-Adjusting Brakes?

Some answers to help you do a faster, better job of servicing these increasingly popular units

By Sam Julty

Service Editor of MOTOR

When servicing self-adjusting brakes the repairman should keep in mind that the basic design of the brakes has not changed. They are still the single-anchor, duo-servo type used for many years.

The only difference is that a self-adjusting mechanism has been added to the assembly to maintain a correct operating clearance between the shoes and the drum. Self-adjusting brakes are found on 1962 Cadillac, Dodge, Falcon, Ford, Oldsmobile with power brakes, Rambler, Plymouth, Valiant, Stude-

baker and Thunderbird cars. Of course, some 1961 models also have them.

The automatic adjusting mechanism operates only when the brakes are applied as the car is backing up. This does not mean every stop made in reverse will automatically turn the adjustment screw. The device is triggered when lining wear makes it necessary for the secondary shoe to move more than a predetermined distance from rest position to the drum.

Although there are minor design differences from car to car, the basic parts of the adjusting device are: A cable, a cable guide, an adjustment lever, a brake adjusting screw and a spring. When the brakes are applied to a car [CONTINUED ON PAGE 116]



Lubricant is applied sparingly to all friction points of brake and to self-adjusting mechanism



Installing third hold-down pin on primary shoe, the final step in reassembly of Cadillac brakes

MOTOR'S 1961 Editorial Index

Complete list of management and service articles published during the year

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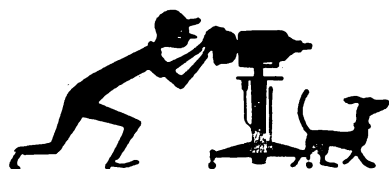
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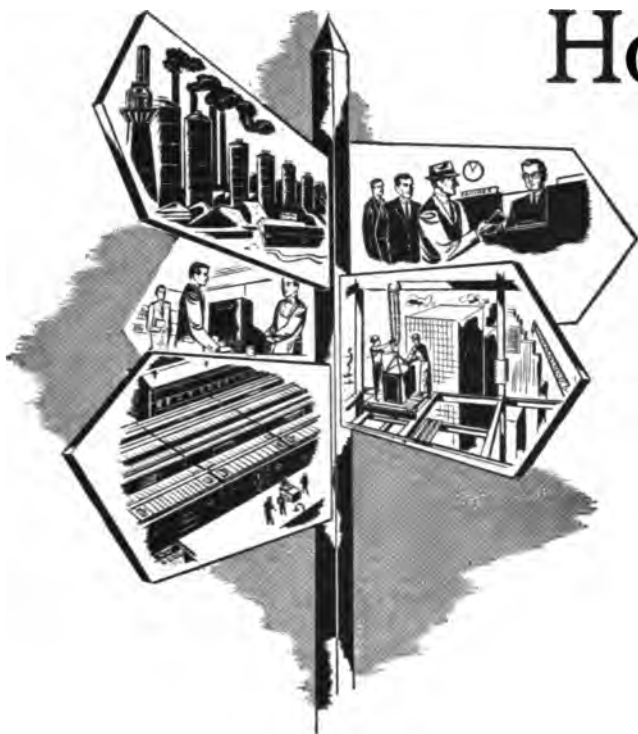


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How's Business?

MOTOR'S Monthly Summary

likelihood that volume will improve much. Intercity truck tonnage, on the other hand, has been running at a fast clip recently and all indications are the first quarter of the new year will bring no slowdown.

CREDIT. There are ample funds available for borrowers. In fact, businesses and consumers have eased up on demands for loans, resulting in more funds at lower rates. Bankers predict, however, that interest charges will be turning up by mid-1962.

RETAIL SALES. The last quarter of this year will probably be the biggest in U.S. retailing's history. For five months retail volume has held on a plateau of approximately \$18,000,000,000. Then in October it zoomed to \$18,600,000,000. Strong consumer spending is attributed to fact that people have more disposable income and have trimmed their debts substantially.

PRICES. Average wholesale prices in primary markets in recent weeks have remained steady at or near 118.5 per cent of the 1947-49 base. Consumers prices have been edging up, paced by higher clothing costs and higher charges for services. Prices should hold steady for this month and next.

CONSTRUCTION. Outlays for all types construction this year will probably total a hefty \$58,000,000,000. Home building, which was spotty early in 1961, picked up strength in the fall and is expected to continue rising next year. The entire construction industry, experts hold, should have a good year in '62.

EMPLOYMENT. Despite the recent rise in employment to a high of 67,800,000, the jobless rate is still hovering near the 7 per cent level. Unemployment total, about 4,000,000, may rise to 5,500,000 in January, the Labor Dept. predicts.

PERSONAL INCOME. At the outset of the year personal income was running at an annual rate of \$402,000,000,000. The figure for 1961 will tally slightly over \$420,000,000,000, an all-time high. Income prospects for the nation's citizens next year are excellent.

PRODUCTION. It is estimated that national output of goods and services for 1961 will come to \$520,000,000,000. Economists forecast that next year's total will rise to a level of \$557,000,000,000. As for industrial output, at last count it was running at an impressive 113 per cent of the 1957 average.

Upturn to Continue

At the outset of this year the economy was stalled. But by early spring, over-all business activity picked up steam and progressed steadily until a leveling occurred during the third quarter.

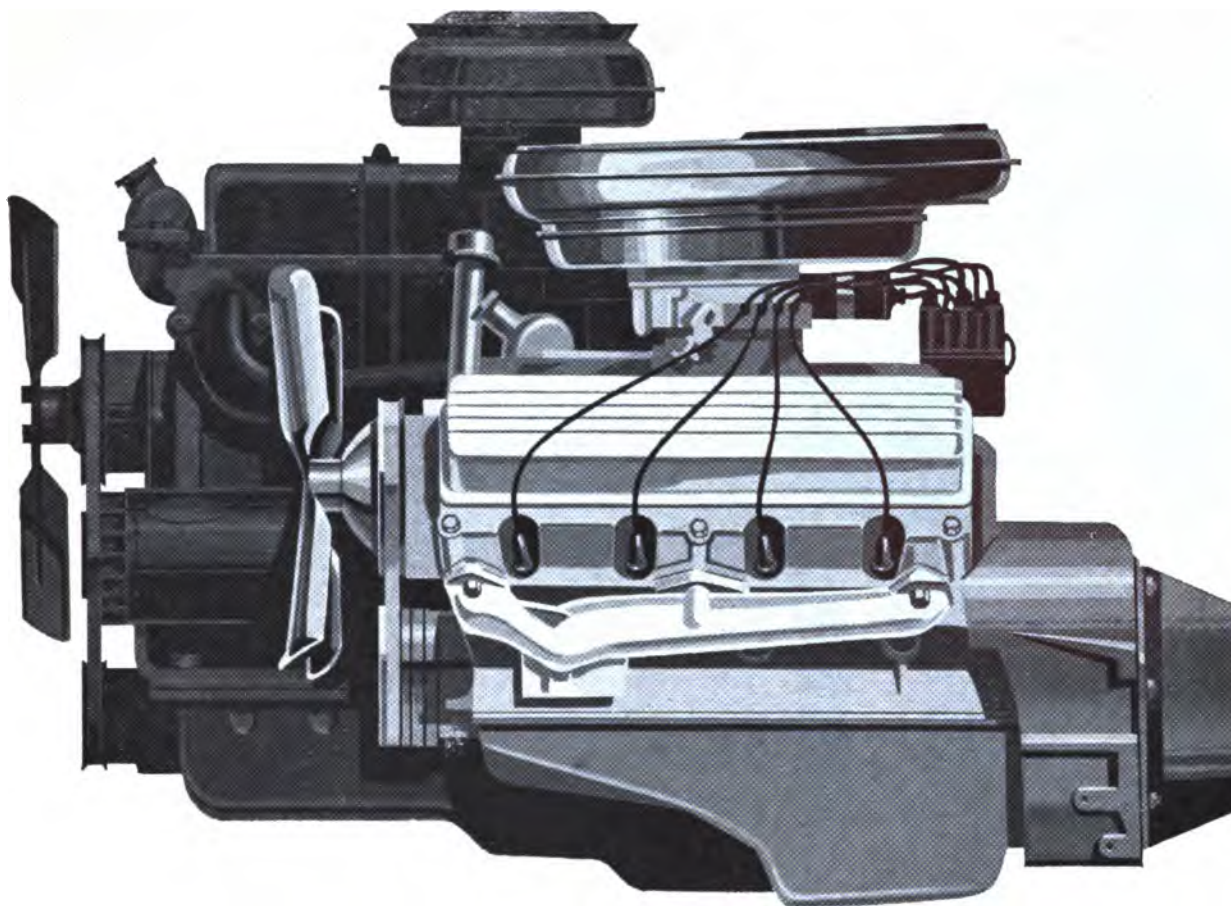
As 1961 draws to a close, it is apparent that there are areas of strength and weakness in the economy. Construction outlays are at peak levels, industrial output is excellent, and retail sales are currently zipping along encouragingly. Rail freight loadings and unemployment, however, are two main soft spots.

The general view of economists, business men and government officials is that the economy will turn up, but not too sharply, in the first half of 1962. Optimism is expressed in terms of restraint.

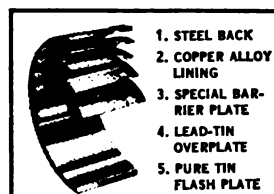
Predictions are: Steel output will rise 10 to 15 per cent the first half of 1962, housing will gain about 5 per cent, chemicals will climb 10 per cent, and over-all industrial output 8 per cent. In the money market, it is predicted that short-term rates will head upward by mid-1962.

There is little optimism concerning the jobless rate. Although the employment total has been at a high level—almost 68,000,000—the jobless rate still hovers near 7 per cent. Chances that it will drop below 6 per cent of the nation's labor force are considered quite slim.

CARLOADINGS. Rail freight loadings in 1961 have been disappointing, trailing last year's pace by about 9 per cent. Looking ahead to next year, there is little



Now! Engine bearings to match modern engine loads



No one bearing alloy is right for all engines. Engines change, and bearings need to change to meet new engine requirements. In less than ten years, horsepower have tripled and compression ratios have increased. Engines have become shorter, more compact, with smaller bearing areas to carry increased loads.

For example, the straight eight engine shown above uses *nine* babbitt main bearings. These babbitts are still best for moderate loads. But the high-horsepower, compact V-8 has only *five* main bearings—smaller in size—in an engine with much greater loads. A new kind of bearing was needed for this new engine.

That's why Federal-Mogul engineers developed the CP bearing . . . more than doubling the load capacity of babbitt bearings. Its 5 separate metallic layers include a copper-alloy lining and an overplate that combine outstanding fatigue strength with good shaft conformance.

Babbitts and CP bearings are just part of the complete Federal-Mogul line that also includes aluminum-alloy and straight copper-alloy bearings. For longest service in your next overhaul, use the bearing that's matched to the engine. You'll also get the kind of happy customer who helps build your business. See your Federal-Mogul jobber.



FEDERAL-MOGUL ENGINE BEARINGS

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DIVISION OF FEDERAL-MOGUL-BOWER BEARINGS, INC. • DETROIT 13, MICHIGAN



One giant all-metal sign at a fraction of the cost sells 9 of your highest-profit parts and services, takes you out of the sign jungle

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Worth \$75 at Retail when you buy 5 pairs of fastest selling Columbus shocks at dealer price.

AT LAST!

9 SIGNS IN 1 with

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WHAT
YOU
GET**

full profit on shocks—big savings on sign

No. 988 Assortment Contains	you pay	retail value	your profit
5 Pairs Columbus Shocks	\$77.48	\$116.20	\$38.72
Giant All-Service Sign	9.88	75.00	—9.88
Columbus Service Catalog		1.00	
TOTALS	\$87.36	\$192.20	\$28.84 net profit plus labor charges



... THE BIG DIFFERENCE ...



Each service panel is backed up with another of your leading parts or services. Change them to suit yourself.



All you need is a screwdriver to turn each of the service signs to merchandise 4 other high-profit services.



Changes are easy; you can re the whole set of signs in a mat minutes—sell 4 other services!

Let's face financial facts: your margin of profit depends increasingly on the *extra* parts and services business you build. And your customers won't ask for these high-profit jobs if they don't know you offer them.

The best way to tell them is with driveway signs. But before you know it, you can find yourself in a jungle of signs (and a mountain of bills for them) unless you're careful.

Columbus has the answer to both your problems.

COLUMBUS SHOCK

When you buy five pairs of these fastest moving shocks, you get the sign for \$9.88. Here's a single all-service sign that allows you to pick and push nine of your most popular and profitable services. Easily removable reversible panels of baked enamel on heavy gauge steel allow you to team up four to eight products and services with high-profit Columbus shocks in an eye-arresting big (5 feet high, 3 feet wide) sign. Columbus brings you the entire set for less than you'd probably pay a sign painter to hand-letter just one of the panels.

But best of all, it's your chance to set yourself up in business as a Columbus Shock Absorbers Ride Specialist, and cash in on the ever-increasing popularity of Columbus—the first advancement in shock absorber design in more than 20 years. Ask your Columbus jobber for full details on this All-Service Sign Deal No. 988 today.



FULL-TIME COLUMBUS

THE COLUMBUS PARTS CORP., DEPT. 205, 1801 SPIELBUSCH AVE., TOLEDO 1, OHIO

SHOCK ABSORBERS
LICENSED BY DE CAR

Factory Service Slants

Detroit experts keep you up-to-date on latest repair changes and procedures



BUICK

Replace Brake Line

Copper tubing should not be substituted for steel pipe when replacing a brake line. The high operating pressure in a hydraulic brake system may cause fatigue cracking of copper tubing. Use only steel pipe when replacing a brake line.

CADILLAC

Tightens Air Cleaner

When an air cleaner is reinstalled on the carburetor after a service operation, the wing nut which retains it should be tightened only finger-tight.

If the wing nut is tightened excessively, it can distort the carburetor bowl cover or air horn. This can cause the choke to stick or bind.

CHEVROLET

Adjusts Valve Lash

The 348 and 409 cu. in. engines have a limited clearance between the valve head and the top of the piston. To prevent possible damage to push rods and other engine parts during valve adjustment, recommended procedures must be followed.

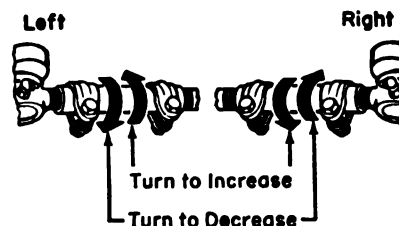
A cold engine should run at least 15 minutes to bring the oil and operating parts up to normal temperature. Do not tighten rocker-arm nuts more than one-quarter turn at a time. Allow at least 10 seconds before tightening

the nuts additional one-quarter turns.

Adjust the rocker arm adjusting nuts one turn tight from zero lash on all 348 and 409 cu. in. engines except 1961 348 engines date stamped T-0728 through T-0129. These exceptions incorporate long-travel lifters which should be adjusted two turns tight from zero lash.

COMET

Sets Steering Wheel



Turn sleeves as indicated to center steering wheel

The bottom spoke on the steering wheel should be in the center position after toe-in is set on 1960-61 Comets. If the toe-in is set correctly and the bottom spoke is to the left of center, turn both connecting rod sleeves upward to adjust the spoke position. If the spoke is to the right of center, turn both sleeves downward to bring the spoke to the center position.

When the toe-in is not correct and the bottom spoke is to the left of center, lengthen the left rod to increase toe-in or shorten the right to decrease it. If the spoke is to the right of center, shorten the left rod to decrease

toe-in or lengthen the right rod to increase it. Make any additional adjustment required after the spoke has been brought to center by adjusting both rods equally to maintain the spoke position.

CHRYSLER

Restores Power Brakes

Lack of assist when cold on a power-brake equipped 1961 Chrysler or Imperial may be caused by a sticking vacuum check-valve or kinked or collapsed vacuum hose.

To correct this condition, install a new vacuum check-valve, part No. 1944089. The new check valve is colored red and white for identification. Next, check for a sharp bend or kink in the power brake vacuum hose. If a collapsed hose is found, replace it. The vacuum hose from the manifold must be connected to the fitting at the white end of the check valve.

Test the operation of the brakes. If a lack of assist still exists, inspect and adjust the brake pedal trigger arm.

DODGE

Prevents Oil Seepage

If the pin which retains the gear projects into the spiral groove on the distributor shaft, it could interfere with the groove's
[CONTINUED ON PAGE 50]



THE CASE FOR QUALITY

Refined from the choicest 100% Pennsylvania Crude and sold at the "regular oil" price, Kendall Dual Action is the motor oil that builds customer good will and repeat business for all your products and services. It is certified to exceed auto manufacturers' test sequence for service MS.

Stocked by the case, it gives greater inventory control, brand identification and the added protection of refinery-sealed shipments.

Ask your Kendall distributor about Dual Action—now available in 6 4-qt. cases as well as 24 1-qt. cases.

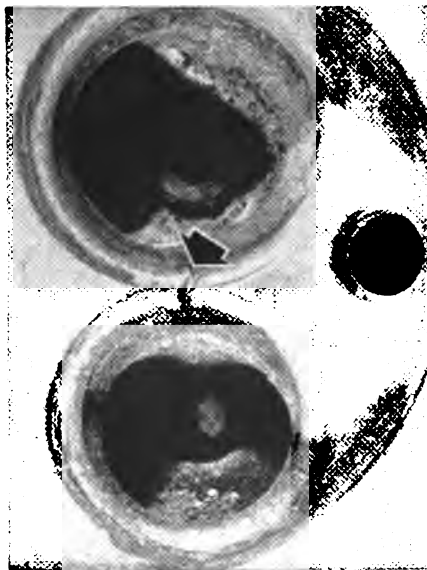


KENDALL REFINING COMPANY, BRADFORD, PENNA.
Lubrication Specialists since 1881

What Caused This?

When the owner complained that the engine missed and that water leaked from the cooling system, the cause was traced to one cylinder. The cylinder head was removed and it was found that a crack (arrow) extended across two valve seats and into the water jacket area in the head. It was evident from the condition of the valves and seats in the other cylinders that a valve job had recently been done.

Do you know what the cause of trouble was here? Turn to page 95 for the answer.



Factory Service Slants

continued from page 48

function. Engine oil would then leak out of the vent hole in the bottom of the distributor housing. The spiral groove must be open to wipe off any oil that may seep up between the lower bushing and shaft.

When oil leakage from the distributor vent hole occurs on a "P" series car, remove the distributor, pin and gear, and inspect the shaft. If the pin hole is drilled through the spiral groove, reinstall the pin just far enough to hold the gear in place. Then drill a new hole 90 deg. from the original hole and install the pin in this new location.

PLYMOUTH, DE SOTO

Rear Main Seals New

New self-expanding rear main-bearing seals, and a new retainer, part No. 1945473, were installed on 1961 361 and 383 cu. in. engines beginning with date code 3-24. The new seals of laminated rubber and asbestos expand when exposed to engine oil and prevent leakage.

If the seal retainer is removed, new seals must be installed, with the ends flush with the lower pan

gasket surface of the retainer and the cylinder block flange. Do not shorten the seal when installing it. Make all preparations beforehand, then coat the sides of the seals with clean engine oil and quickly install them and the retainer. Any lengthy delay after oil is applied may cause expansion and make it impossible to install the seal.

The new seals and the required new retainer may be installed on 1959-1962 Plymouth and 1958-1961 De Soto 361 cu. in. engines, 1958 Plymouth and De Soto 350 engines, and 1960-61 Plymouth and 1959-60 De Soto 383 engines.

FORD, MERCURY

Adjusts Zero Valve Lash

New rocker arms incorporating a spring-loaded plunger, which moves an eccentric to provide zero valve lash, were installed as a running change on some 1961 Ford and Mercury 6's. They are standard on 1962 Ford Galaxie 6 and Mercury Monterey 6.

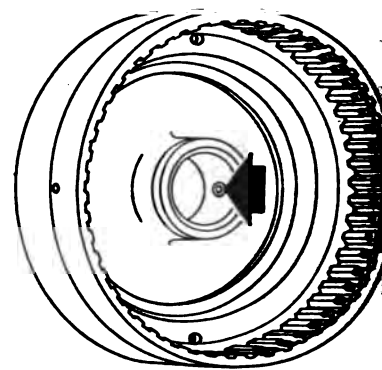
To make a preliminary adjustment, place No. 1 cylinder at TDC, top of compression, to adjust the rocker arms for that cylinder. Then push the eccentric in toward the shaft until the plunger is completely pushed into its bore

in the rocker arm. Turn the adjusting screw in until the eccentric and plunger are held in the pressed position, then slowly turn the screw out until the adjustment mark in the eccentric centered over the valve stem. Torque the screw lock nut to 15 lb.-ft. Repeat the procedure on the other cylinders, in a 1-5-3-6 sequence, with each cylinder at TDC firing position.

Make a final adjustment, with the engine at idling speed, to center the adjustment mark on the eccentric over its valve stem.

STUDEBAKER

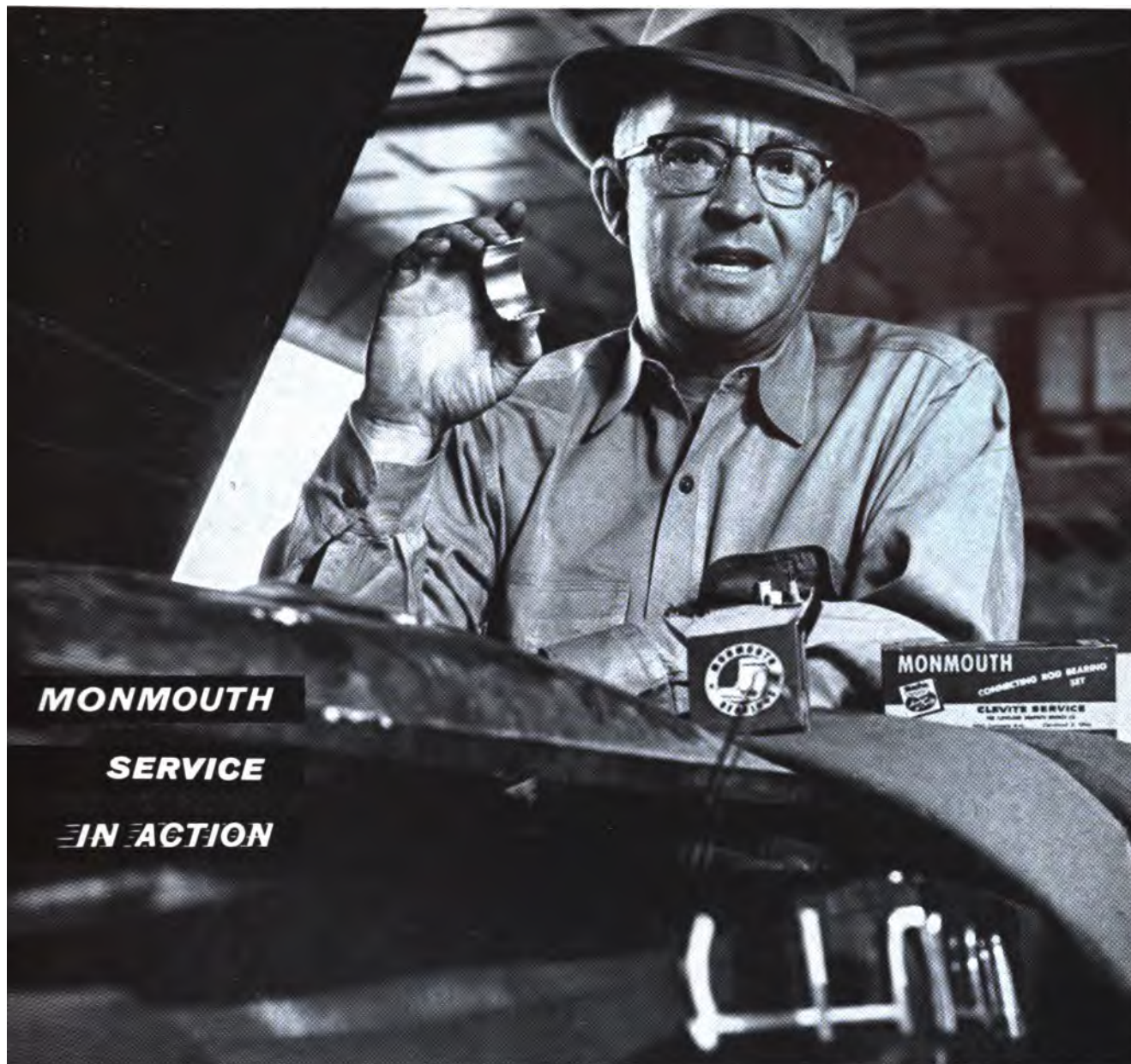
Improves Shift



Inlet hole (arrow) in front clutch cylinder is enlarged to 5/32 in. to improve shift

To correct slow engagement or a jerk when shifting from P or N position into D or L on 61S models before serial No. 19163 and on 61S-Y1 models before serial No. 10500, replace the three front-clutch discs with three new ones, part No. 1554230. Taxis and heavy-duty transmissions require four discs. Then, on passenger cars, replace the front clutch pressure plate with a new plate, part No. 1554179. This plate must not be installed in the taxi heavy-duty type transmission. Next, drill out the inlet hole located in the front clutch cylinder to a 5/32 in. diameter size. The production size of this hole is .075-.081 in.

When replacing 61S Flightomatic parts because of wear, use the part numbers given above and front clutch cylinder part No. 1554227. [CONTINUED ON PAGE 52]



Monmouth really concentrates on service . . .

... that's why I depend on Monmouth. I can get any bearing I want, fast as I need it, just by calling my NAPA jobber. And I know Monmouth stands behind my jobber in making a product that's top in quality. You can't beat that combination of quality and service. It makes my business a lot simpler and more profitable."

says Flake Wells, Jr., Owner
Wells Garage
El Paso, Texas

If you want performance that pays off, use Monmouth Bearings on all your engine rebuilds. For instant service, call on your NAPA jobber. He can give you complete Monmouth service on all your engine bearing requirements.



MONMOUTH Engine Bearings

VITE SERVICE: Cleveland Graphite Bronze • Division of Clevite Corporation • Cleveland 3, Ohio



FORD

Tracing Brake Fault

To find the cause of a hard pedal on a 1961 Midland Ross power brake, depress the pedal several times to eliminate vacuum from the system. Maintain a steady pressure on the pedal and start the engine. If the pedal moves down slightly, the booster is operating. If it does not, check for sticking pedal linkage or a faulty vacuum check valve or one stuck in the closed position.

Then look for a collapsed or leaking vacuum hose, plugged fittings, or a leak in the vacuum chamber or bellows assembly. Be sure the diaphragm assembly is correctly located in the housing and there is no leak in the throttle-valve line connection to the automatic drive.

Brake drag can be caused by a sticking valve plunger. Brake grab can be due to a sticking actuating valve assembly.

If the brakes apply themselves when the engine starts, look for a leak in the rear housing. An out-of-place diaphragm can permit atmospheric pressure to enter the rear chamber, or the atmospheric valve can be stuck or not seated.

STUDEBAKER

Toe-In Changed

Increased tire life and easier steering can be obtained by increasing the amount of front wheel toe-in on 1961 Lark passenger cars. The former toe-in recommendation was $\frac{1}{16}$ to $\frac{1}{8}$ in. The new specification is $\frac{3}{16}$ to $\frac{1}{4}$ in. on cars not equipped with power steering.

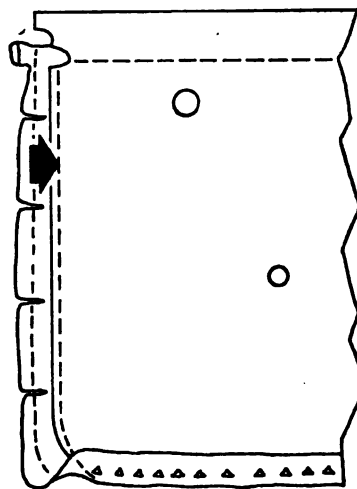
Set the toe-in with the vehicle at curb weight, with a full tank of fuel, but without the driver in the car. On a car driven most of the time with five or six passengers, the toe-in setting should be increased to $\frac{3}{16}$ in.

With power steering, toe-in remains at $\frac{1}{16}$ to $\frac{1}{8}$ in.

BODY

CHEVROLET

Repairs Trim Pad



Trim pad's foundation board is cut along line noted by arrow to conceal damaged trim edge

Damage to the front or rear edge of the inner door trim pad can be repaired after the pad is removed.

Disengage the trim material from the metal trim stick on the back of the edge to be repaired. Carefully separate the trim material from the paper backing along this entire edge. Then place a small piece of cloth-backed body tape on the back of the damaged trim.

Now slowly stretch the trim over the stick to move the damaged part to the back of the trim pad. This will usually conceal damage up to $\frac{1}{8}$ in. in width. If the damage is wider than this, remove the trim stick and cut off the affected edge of the foundation board for the trim pad. Cut off only a width that will not affect the retaining nails from lining up with the plastic retaining cups on the door panel.

LINCOLN

Releases Hood Lash

When a hood-control cable fails to release the latch, do not attempt to open the hood from the top by prying upward on the rear

edge of the hood. A redesigned hood latch limits the amount the hood can be moved and the latch is almost completely obstructed because of this.

To open the hood when the cable fails to release the latch, use a rod approximately $\frac{3}{8}$ in. in diameter and 36 in. long. Bend at least 90 deg. 6 in. from one end to form a hook. Then, from underneath the car, push the hooked end of the rod upward along the right side of the bell housing to the hood latch. Press the hooked end of the rod against the latch with enough force to drive it rearward and release the hood.

On a car with air conditioning, remove the splash shield at the left front fender. Release the latch with a pry bar inserted through the wiring harness hole in the fender apron just forward of the heater blower motor. Pry against the hood hatch with the bar to open the hood.

TEMPEST

Removes Quarter Window

On rear-quarter windows of late 1961 two-door coupes, the cam on the lower sash channel is welded on and not attached by screws. The attachment method can be determined by inspection through the large access hole or the cam access holes in the inner panel. The welded attachment requires a new window-removal procedure.

First, take out the rear-seat cushion and seat-back assemblies. Remove the cover to the access in the inner panel, and the inner sealing strip from the window. With the window raised, take off the rear guide. Now lower the window far enough to tilt it rearward and disengage the roller on the regulator lift arm from the cam. Then lift the window upward and inboard to disengage the roller on the sash from the front guide, and remove the window.

To install the window, reverse the procedure.

62 Bonanza

Featuring the
KODAK \$26⁹⁵ F/2.7
MOVIE CAMERA

Here's the deal!

Buy 25 of the fastest moving Purolator Oil Filters
for \$49.95.

In the same package is your Kodak 8mm f/2.7
camera plus a special certificate good for \$30.00
toward the purchase of a projector and film.

ORDER YOUR PUROLATOR
BONANZA TODAY—*while the supply lasts*

Purolator's **LISTEN TO THE MAN...!** campaign continues to make sales for you

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OIL, AIR & GASOLINE FILTERS

PUROLATOR PRODUCTS, INC., RAHWAY, N. J., TORONTO, ONTARIO, CANADA

TOR, December 1961





\$10 for Your Ideas

Have you come across any timesaving short cuts or solutions to tough repair problems? If you have, and the idea is a good one, MOTOR will pay you \$10. If your idea needs an illustration, just enclose a rough sketch in your letter. MOTOR'S artists will do a finished drawing.

When your idea applies to one particular car make, be sure to give the make and model year of the car.

Naturally ideas which have already been used or offered elsewhere cannot be considered.

So grab a pencil and jot down your idea on your shop's letterhead or billhead. Then mail it to "Fix It" Editor, MOTOR, 250 W. 55th St., N. Y. 19, N. Y.

Have Troubles? Readers Tell How To

FIX IT

Brightens Droplight

The reflectors on droplights lose their effectiveness when they become stained with oil and grease. They are then practically useless.

To get a better light, line the inside of the reflector with a 5 by 6 in. piece of aluminum foil, bending the foil ends over the edges of the reflector to keep it in place. When the foil becomes stained by grease and oil, discard it and install a new piece. A much better light is obtained in this manner.

—ADOLPH HUBLAR
New Albany Motor Co.
New Albany, Ind.

Better Dynaflo Repair

When replacing a deeply scored front-pump cover on a high-mileage Dynaflo, it pays to find and correct the cause of wear. In most cases, the wear on the drive tangs of the converter pump tends to force the front-pump drive gear back into the pump cover.

To correct, use a flat file to square off the drive tangs on the drive side. Then remove the sharp edges with crocus cloth to

prevent damage to the seal. This will remove the cause of the excessive gear thrust and prevent an early comeback.

—ARNIE OLSEN
Angen Auto Sales Inc.
Alexandria, Minn.

Cures Pump Leak

If oil leaks through the vent holes in the fuel pump on a Chevrolet V-8, a defective pump is not necessarily the cause of the trouble.

Before installing a new pump, be sure the oil-return drain hole is not blocked or restricted. This drain hole is located at the bottom of the opening in the cylinder block where the pump arm is inserted. This check can avoid a possibly unnecessary new pump installation.

—LOUIS WORKMAN
Carl Van Kanegan Service Station
South Holland, Ill.

Cleans Valve Seats

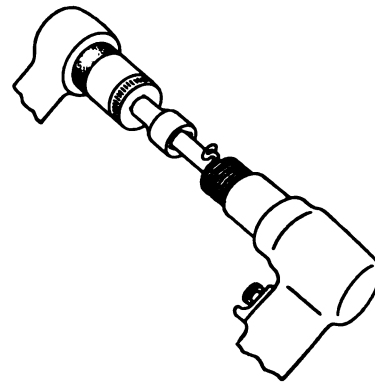
Cleaning the valve seats on overhead-valve engines such as those on mowers and small foreign cars is a problem. Standard size pilots are too large for the guides and the rubber suction

cups too large for the valve heads.

A satisfactory job can be done, when only a cleaning of the seat is required, by installing the valve in place in the cylinder head. Chuck the valve stem in a 1/4 in. electric drill, place valve-grinding compound on the valve face and seat, and use the drill to perform the lapping operation.

—EDGAR THOMAS
J. H. White Auto Service
Greenville, S. C.

Replaces Arm Bushings



Socket is put against bushing and punch inserted in extension end to drive bushing into place

Time can be saved when replacing idler-arm bushings on Chevrolets by using a metal-cutting power tool both to remove the old bushing and to install the new one. The old bushing is removed in the usual manner by using the cutting attachment.

To install the new bushing, use
[CONTINUED ON PAGE 60]



Will he stop in time?

Did you know that, although it takes **ONE MINUTE** for a 100 horsepower engine to accelerate from 0 to 60 mph, brakes must be capable of decelerating from 60 to 0 mph in **SIX SECONDS**—equivalent to 1000 horsepower.

American Brakeblok—producer of America's safest, quality brake lining—has been working closely with highly skilled engineers of the automobile industry who are constantly seeking a brake lining that will stop a car faster and with greater safety, for thousands of miles longer.

Its research center, staffed with heat, wear

and friction specialists and equipped with the most modern development facilities, is constantly developing a wide range of materials that give automotive designers greater freedom in drawing specifications.

These materials, thoroughly tested and proven, are available to meet the most rigid braking requirements of modern automobiles and trucks. Do your customers a real service—by making their driving far safer—install American Brakeblok, America's **SAFETY** brake lining. Riveted and bonded exchange—from your NAPA Jobber. Call him now!



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We've got the COMPLETE QUALITY



line of parts and accessories!

Whatever part you need... MoPar's got it

Now MoPar offers a COMPLETE QUALITY line of parts and accessories for most popular makes of vehicles.

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FOR OTHER MAKES OF VEHICLES

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New or remanufactured—these parts fit right, work right, install quickly—save labor time, help keep jobs rolling on schedule.

For fast, efficient service and delivery—for any order of any size—just reach for the phone and call your MoPar Parts Wholesaler, or Chrysler Motors Corporation Dealer.

For quality parts and accessories—you name it—MoPar's got it!



MoPar Parts and Accessories, Chrysler Motors Corporation, Detroit 31, Michigan

Getting the Business



Fix It

continued from page 56

a punch attachment for the tool. Start the bushing in position. Place a $\frac{1}{2}$ in. drive $1\frac{1}{8}$ in. socket against the bushing and attach a 2 in. extension to the socket. Now place the punch in the recess in the end of the extension and drive the bushing into place with the power tool.

—LE ROY ROATH, Jr.
Roy's Auto Repair
Lombard, Ill.

Eliminates Oil Leak

The large hole in the center of the fuel pump's mounting gasket can in some cases allow too much oil splash to enter the pump on 1952-60 6 cyl. Ford cars and trucks. Oil will then seep out the vent and around the shaft on the pump. A baffle can be installed to correct this.

First, remove the pump and, using the mounting gasket as a pattern and the bottom of a quart-size can for material, cut the baffle to the same outside shape as the gasket. Now cut the hole in the center only as wide as the pump arm and as long as the arm travel. This is approximately

$\frac{1}{2}$ by $\frac{1}{2}$ in. Make certain there is no drag on the pump arm. Then punch the two mounting holes in the baffle, again using the gasket or the mounting flange on the pump for a pattern.

When installing the pump, place the gasket next to the engine, and the baffle between the gasket and the pump.

—JOHN DIEHL
Alfred P. Liebold, Inc.
Bethayres, Pa.

Stops Stalling

We have had a number of cases where stalling has been hard to eliminate on 1960-61 Corvairs.

To correct this, we install a throttle-return check valve on the carburetor at the left side of the engine. This is the same check valve as that used on the 1957 Chevrolet passenger car with Turboglide transmission. Rework the brackets for installation on a Corvair. Installation of this check valve has licked stalling in all cases.

—JOEL DAIGLE
Etscovits Chevrolet
Fort Kent, Me.

Speeds Carburetor Job

Many carburetor specialists place a brass drift on each of the two check balls and tap them

with a hammer to obtain a good seat. Sometimes a ball will stick when this is done. If it is the inlet ball, it can be freed with a blast of air through the intake hole in the bottom of the bowl. If it is the discharge ball, there is trouble.

To free a discharge ball, saw the shaft off an old pump piston and drill a hole through the center of the piston. Then place the piston in the pump cylinder in its normal position and shoot a blast of air through the hole in the piston while pushing down with the air nozzle. Be careful when doing this because the ball can fly out.

—NORMAN FORD
Lakeview Ignition Co.
Asheville, N. C.

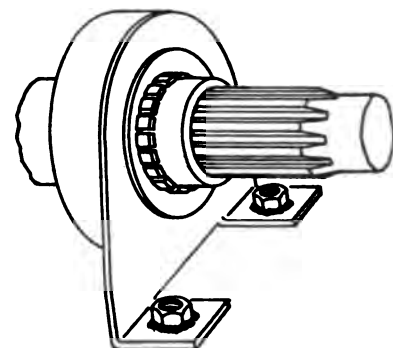
Install Speedometer Cable

The Corvair's speedometer cable is usually difficult to install because of its length and the number of bends and curves between the dash and engine.

To make cable installation easier, first lubricate the cable and then push it into the housing as far as possible from the dash end. Now, chuck the speedometer end of the cable in a hand drill and turn the drill to feed the cable into place. This method can be used to install any long speedometer cable.

—FRED SCHRAMM
Fred Schramm Motor Service
Arlington, Fla.

Aids Driveline Installation



Nuts are welded to carrier to speed driveline installation

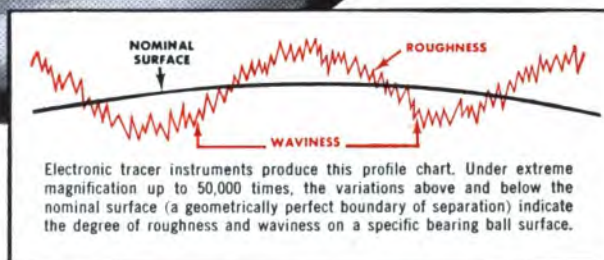
On some Chrysler and Imperial cars having a two-piece driveshaft, it is almost impossible to replace
[CONTINUED ON PAGE 62]



BCA's roll smoother because bearing surfaces *are* smoother . . . controlled with superprecise electronic instruments

The smallest irregularities on bearing ball surfaces can cause vibration, internal friction, and wear. That's why BCA includes an extra-careful inspection for surface roughness and waviness as part of quality control.

These irregularities are so small that they have little or no effect on dimensional trueness as measured to the millionth of an inch—but *can* result in shortened bearing life.



Therefore, special electronic instruments have been developed to measure surface irregularities. Stylus-type tracers record them on profile curves (see illustration).

This is just one phase of quality control at BCA . . . one reason why the *complete* line is relied on for smoother, longer performance by so many automotive service technicians. Call your BCA bearing jobber for immediate delivery of the types and sizes you need.



BCA BALL BEARINGS

FEDERAL-MOGUL SERVICE

Division of Federal-Mogul-Bower Bearings, Inc. • Detroit 13, Michigan

Fix It

continued from page 60

the retaining nuts on the center carrier after repairs have been completed. This is because the exhaust system restricts access and makes it difficult to hold the nuts with a wrench.

A great deal of time can be saved, and the job done quite easily, by welding or brazing the nuts to the carrier after the shaft and carrier have been removed. There is then no need to hold the nuts when the carrier is installed.

—WAYNE WOOLMAN
ABC Motors Inc.
Vinita, Okla.

Better Universal Service

Chief wear on the cross of a universal normally occurs on the trailing half of the journal fitted into the driving yoke, and on the leading half of the journal fitted to the driven yoke. To do a better job when repacking a universal, mark the cross with reference to its location in the driving and driven yokes.

When reassembling the joint, turn the cross one-quarter turn forward or backward from its original position. The heaviest thrust will then be against relatively unworn journal surfaces on the cross.

Of course, if the surfaces show actual wear, the parts should be replaced.

—HERBERT A. ANDERSON
Anderson's Service
Red Oak, Ia.

Removes Starter

To remove the starter on a 1958 Chevrolet Impala with factory-installed dual exhaust system, first disconnect the crossover pipe from the manifolds.

Next, just loosen the three bolts that hold the starter in place. Now place a support, such as an oil drain cart with extension, under the starter.

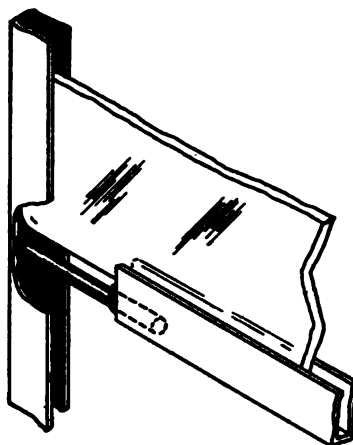
With the starter resting on the support it is much easier to disconnect the three wires on top of the solenoid switch.

—BOB P. TALARICO
Ferrone Bros.
Utica, N. Y.

BODY TIPS

MOTOR will pay you \$10 for each usable timesaving short cut from the body man

Prevents Glass Breakage



With one end of rod extending into glass channel, the other end is welded to sash

If the glass in a front door breaks on a 1961 Corvair 95 or Greenbrier, a recurrence can be prevented. The window-regulator arm slides in a short guide rail that is attached to the sash assembly at the bottom of the glass.

This sash assembly curves upward toward the rear glass channel, but the opposite end lacks approximately by 1 in. of reaching the total width of the glass. It is at this point, near the channel adjacent to the ventilator assembly, that breakage may occur due to lack of support.

To correct this, use a 3 in. length of $\frac{5}{16}$ in. round stock. Weld one end of the rod to the sash with the other end extend-

ing into the glass channel. This will give the required additional support.

—ADLORD E. DULAC
Rogers Garage, Inc.
Hanover, N. H.

Holds Glass in Place

When replacing window regulators and other door parts on some cars, the glass drops down and interferes with the job. To eliminate the interference, stick masking tape to one side of the glass while it is in the raised position, take the tape over the top of the door, and then stick the tape to the other side of the glass. The tape will hold the glass up for easier access to the regulator, lock, and other door parts.

—RICHARD H. CRANE
Greg's American
Beaver, Ut.

Retains Sun Visor

A slight amount of wear on the center plastic bracket on 1960-61 Chrysler sun visors permits the visor to drop out of its bracket. Replacing the bracket is only a temporary correction.

A fast and effective correction can be made by removing the screw which retains the bracket and installing a cupped washer under the head of the screw. The screw head then projects farther and prevents the shaft from coming out of the slot in the bracket.

—MORRIS STEFANIUK
The Automobile Clearing House, Ltd.
Saskatoon, Sask., Canada

How Would YOU Fix It?

A chance to test your skill as a troubleshooter

► The shift pattern on the Powerglide, the customer said, was off beam. The throttle valve linkage checked out, however, and different adjustments of the linkage did not help. Pressures were O.K. The main valve body and the low-drive valve body were inspected next

and found to be in good working order.

At this point, some major disassembly work is usually necessary but the repairman, playing a hunch, made one more simple check. How would you have tackled it? Check answer on page 120.

NOW sell 3 of the big 4 with Holley!



AMERICAN MOTORS
CHRYSLER
FORD

NOW your sales opportunity with Holley is bigger, brighter than ever before

Holley has created a brand new—and profitable—market for you in '62! Now, in addition to *genuine* Holley carburetion and ignition replacements for the most popular American Motors and Ford-built cars, Holley offers a new, low-cost PEP Carburetor that easily adapts to all late-model Chrysler-built 6's. It replaces 17 carburetors on Chrysler-built models, lets you streamline your stock, reduces service parts inventory to a bare minimum.

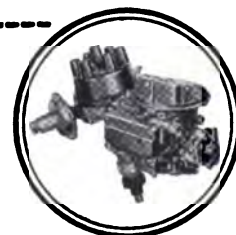
This new Holley PEP Carburetor is *original equipment quality*—**BRAND NEW, NOT REBUILT**. It must pass all the same rigid tests as carburetors Holley is furnishing for 1962 Dodge Dart, Lancer, Plymouth and Valiant 6's, yet is priced competitively with the rebuilds.

Get your share of this Big 3-Way Market—and be sure of customer satisfaction. See your Authorized Holley Distributor today. Remember, only Holley offers *genuine* Holley parts.



11955 E. Nine Mile Road
Warren, Michigan

Original Equipment
Manufacturers of
Carburetion and Ignition
Products for Over 55 Years



IS IT LEGAL?

By Arthur L. Reuter of the New York Bar



Claims Ownership of Car Bought by Dealer

Ben Burton came to town to work in Felix Foster's hardware store. Ben soon found himself in need of transportation. He inspected the stock in Walter Wickwire's used car lot and picked out a Cloudburst sedan.

Ben, however, was too new in town to have a credit standing and was unable to pay the whole price of the Cloudburst. He discussed his problem with his employer and Felix agreed to act as buyer and to sign the notes and a conditional sales agreement, if Ben would make the down payment and pay the notes when due.

The deal was closed under that arrangement and Ben faithfully made the monthly payments, 24 in all.

But by the time the last payment had been made, Ben had quit Foster's and had gone into business for himself. The Cloudburst was still in Foster's name. Vowing vengeance on Ben for setting up in competition with him, Felix sold the Cloudburst back to Walter Wickwire.

Ben demanded that either the car be returned by Walter or that Felix refund Ben's payments. Both refused.

Felix insisted that as owner of the Cloudburst he had the right to sell it and Walter maintained that since Felix could sell it, anyone could buy it with safety.

Acted as Owner

Judge Wright decided that Wickwire could keep the Cloudburst but that Foster had to return to Ben every cent that Ben had spent in buying it.

Said the judge, "There was a contract between Burton and Foster. Foster was to act as owner in

Burton's interest in the conditional sales transaction and as a result of Foster's conduct, Burton paid out a substantial amount of money toward the purchase of the Cloudburst in Foster's name. This was a detriment to Burton sufficient to constitute a valuable consideration to support Foster's obligation to hold the car for Burton's benefit.

"The legal title, of course, was in Foster and the dealer, Wickwire, was entitled to rely on that fact. Burton by his own part in the transaction helped to create the condition under which Foster had apparent legal right to sell the Cloudburst and Wickwire cannot be compelled to surrender the automobile which he purchased in good faith.

"However, Burton has been damaged by Foster's sale of the car, a sale which was clearly in violation of the agreement between the two men. Foster must, therefore, restore to Burton the loss which the latter has sustained."

Based on case reported in 136 Atl. 2d, 682 (R.I.)

Injured in Shop Mishap, Holds Dealer Liable

Don Dwyer drove his Navajo sedan to the service shop of Nick Nelson's Navajo dealership. In getting out of the seat he slipped and fell as a result of stepping into a spot of oil. He broke his hip and was hospitalized. He demanded damages from Nick.

Nick refused to pay.

"Nelson's Navajo Co. was not at fault," said Nick. "We maintain a system which detects and removes grease and oil spots. The area is swept every morning and employees

are cautioned to be on the alert for spots and to remove them by sprinkling with sand. For all we know that spot Dwyer stepped in was formed two minutes before the accident."

Dealer Negligent?

But when Dwyer sued, he was awarded a judgment for a substantial sum and costs, after a trial before Judge Learned.

"The operator of a business establishment," the judge said, "is not an insurer of the safety of his customers, and is liable only for injuries resulting from negligence on his part. However, he must use reasonable care in the protection of his customers and in discovering reasonably discoverable conditions which may be dangerous and in correcting them or warning his customers.

"Here we find that Dwyer drove into the service department. One of Nelson's employees walked over to the car, stood beside it and took notes of Dwyer's description of the items requiring repair. The employee then walked forward to open the hood and Dwyer alighted to join him. As he did so, he stepped precisely into the spot where the employee had been standing. The spot was covered by oil. Dwyer slipped and fell.

"Nelson's employee was in a position to notice the oil spot. He was standing in it or close to it. He should have seen it. He had a duty to see what was reasonably observable. He had a duty to warn Dwyer of the presence of the oil.

"The breach of duty places the liability on Nelson for the damage."

Based on case reported in 125 S. 2d at page 185 (La.)

his is—
wix·O·MATIC



For Those Who Sell Filters... and Want to Sell MORE!



WIX Oil and Air Filters are built to give the car owner extra value and greater engine protection...WIX-O-MATIC, the soundest merchandising system in the filter industry, gives you more sales and bigger profits. This statement is proved by thousands of dealers who know from first-hand experience how WIX-O-MATIC stimulates sales and stops losses.

With WIX-O-MATIC you never lose sales by "being out of" the filter you need...you never lose money because of excess inventory or obso-

lete numbers. And—sales are made quicker! With the Dial-O-Matic Cartridge Selector you can tell at a glance what filter is needed for any American-made car or light truck that drives in—most foreign cars, too. WIX-O-MATIC is available with wall racks for small stocks and floor cabinets for more active locations, and you get both FREE.

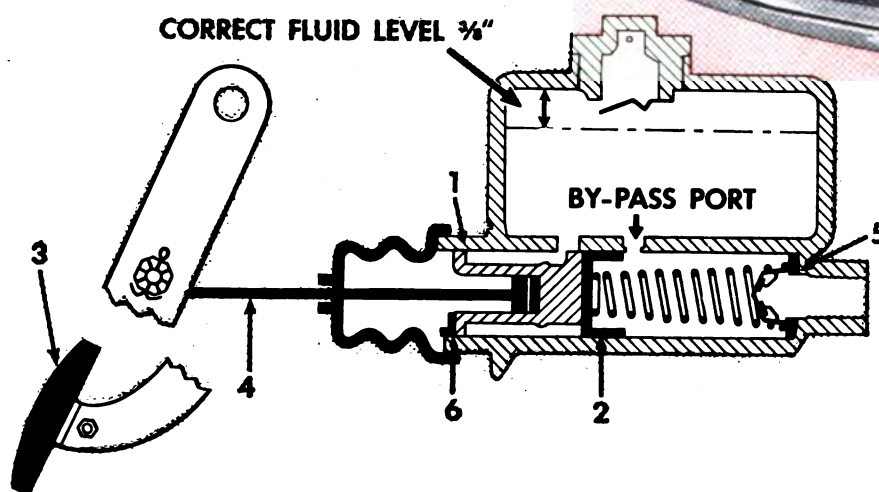
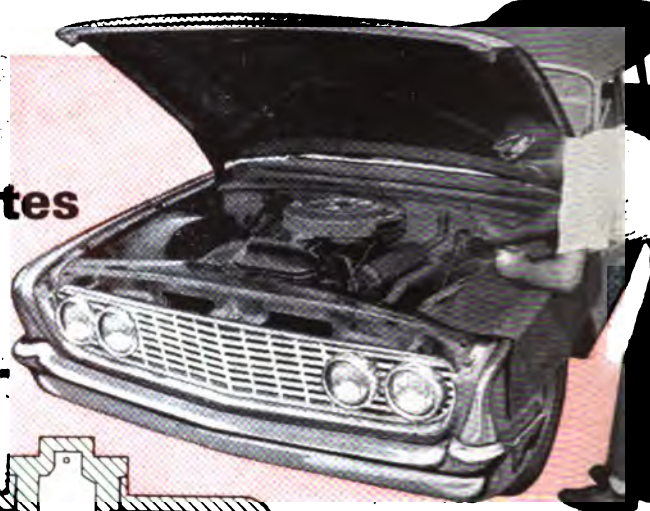
Get all the facts on WIX Oil and Air Filters and WIX-O-MATIC merchandising from your jobber, or write direct. Do it today.

WIX CORPORATION • GASTONIA, N. C.

In Canada: Wix Corporation Ltd., Toronto
In New Zealand: Wix Corp. New Zealand Ltd., Auckland

Here's how to add

**It takes but a few minutes
to INSPECT the
MASTER CYLINDER . . .**



Pull back push rod boot. Presence of fluid indicates external leak at secondary cup (1).

Push pedal down hard, then relax pressure without removing your foot. If pedal gradually drops under light foot pressure, internal pressure leak at primary cup (2) is indicated.

By hand, move pedal (3) to check free play ($\frac{1}{8}$ "– $\frac{3}{8}$ "). Too little free play will cause pressure build-up and brakes eventually drag. Correct free play by adjusting the length of the cylinder push rod (4) (no adjustment on Chrysler products, w/o Pr. Brk., after mid-1958, not equipped with pedal pull back spring). If brake bleeding seems difficult or pedal becomes increasingly "spongy" with

repeated use, check valve (5) may be at fault (spongy pedal may also be due to wheel cylinder cups leaking air in).

Replace faulty unit with a new Wagner® Lockheed® cylinder, or recondition unit with a Wagner Lockheed master cylinder repair kit. To repair, dismount unit, remove stop plate (6) at open end and shove out parts. Clean bore with diacetone alcohol or brake fluid. Pressure marks or discolorations in cylinder bore should be polished with crocus cloth or light honing. If honed, remove burr from by-pass port. Lubricate parts and bore in brake fluid and install parts in reverse of disassembly.

You're always right with the Quality Line

Wagner® Lockheed®

the best known—and most trusted name in brake service products

LOCKHEED BRAKE PARTS, FLUID, BRAKE LINING and LINED BRAKE SHOES • AIR HORNS • AIR

brake parts volume

...when a customer's car is left for servicing...

also check the brake system

...if inspection discloses new parts are needed... install



Wagner® Lockheed® **HYDRAULIC BRAKE PARTS** unsurpassed for restoring original braking efficiency



Safety-check the brake system of every car you service. You'll discover that many cars need brake service, and that most owners will authorize necessary brake repair work—if you stress the importance of safe brakes. It's an effective way for you to add brake parts volume.

Safe Brakes Protect Lives—and you help protect the lives of your customers when you use Wagner® Lockheed® Replacement Brake Parts to restore original braking efficiency.

These parts fit and function correctly because they are manufactured by the same machinery—to the same specifications—as Wagner parts used for Q.E.M. (original equipment manufacturer) needs.

Wagner Lockheed is the most complete line on the market. It includes master and wheel cylinders, repair kits, pistons, springs, washers, cups, hose, cables, and all related items for every make and model vehicle. Available individually or in factory sealed kits.

There's a supplier of Wagner Lockheed Products near you. Look to him for Brake Parts, Brake Fluid, Power Brake Repair Kits, Brake Lining and Lined Brake Shoe Sets. ONE call gets ALL!

Wagner Electric Corporation
Manufacturers of LOCKHEED® Products

FREE--

Catalog AU-500 covering our complete line is yours for the asking. Also inquire about how easily you can qualify to become a Wagner Lockheed Franchised Dealer and enjoy many special benefits. Consult the nearest Wagner Distributor, or write us.



Wagner Electric Corporation

6452 Plymouth Ave., St. Louis 33, Mo., U. S. A.
(Branches in principal cities in U. S. and in Canada)

Please send me Catalog AU-500 covering your complete line.

NAME _____

FIRM NAME _____

ADDRESS _____

CITY & STATE _____

WP61-4



News for Jobbers

IASI Show Exhibitors Nears Record

The latest count of manufacturers who have reserved space in the International Automotive Service Industries Show, to be held on Navy Pier, Chicago, Feb. 25-March 3, now shows 485. The record was 520 at Chicago 10 years ago.

Most of the associations in the after-market have already completed plans for meetings to be held just before or during the show. The governor of Illinois and the mayor of Chicago are expected to declare an "Automotive Service Industry Week, 1962" to cover the duration of the activities.

Meetings get under way Feb. 24 with a meeting of the board of Automotive Warehouse Distributors Assn. The Automotive Service Industry Assn. will hold its annual membership reunion on Sunday, Feb. 25, and its annual dinner the following evening. A luncheon will be held both days of the ASI convention on Feb. 26-27.

Other meetings are being arranged by the Automotive Affiliated Representatives, which will hold a breakfast on Tuesday, Feb. 27. That evening the Motor and Equipment Manufacturers Assn. will hold its President's Reception and banquet.

The Overseas Automotive Club will hold its annual banquet on March 1.

Issues Safety Kit

State safety chairman of the Automotive Service Industry Assn. are

now using the new ASIA Safety Kit in the 32 states that do not have periodic inspection. The kit is to be used to help introduce and pass inspection laws in these states.

It outlines an action program pointed toward this end and contains background information on legislation and related material.

Heads Ring Group

E. J. Marting, assistant to the vice president of McQuay-Norris Manufacturing Co., has been elected president of the Piston Ring Manufacturer's Group.

Warehousemen Offer Data for Jobbers

A central source of facts and figures for automotive wholesalers, known as the Jobber Information Center, has been announced by the Automotive Warehouse Distribu-

Man of Year



Joseph E. Bickel

tors Assn. It is hoped that any question submitted can be answered within 30 days.

Self-mailing question forms will be available from the center at Kansas City, Mo. Every possible source of information will be used by the center, including manufacturers, research bureaus, schools and recognized authorities.

A revolving credit fund of \$150,000,000 will be made available to jobber customers of warehouses, if plans announced at the convention are carried through.

Joseph E. Bickel, vice president of Monroe Equipment Co., was named the Automotive Man of the Year.

The Ernest A. Tapp Memorial Award went to Jack F. Whitaker, president of Whitaker Cable Corp.

Sol E. Fuchs, Chicago warehouseman, and first president of the AWDA, was elected to honorary life membership in the association.

All officers were re-elected. These were Robert S. Weber, Milwaukee, president; Bernard Bock, New York, first vice president; Paul R. Livoni, Los Angeles, Cal., second vice president; Harry D. Rothman, Oakland, Cal., secretary, and A. P. Walter, Chicago, treasurer.

John Bury, vice president of Purolator Products, was named to head the manufacturers' advisory council. Elected to the council were Hans Siverts, Ramsey Corp., Dearborn, E. Stewart, Whitaker Cable Corp., and George W. Thomas, R. E. Dietz Co.

Management Meetings Concluded by ASIA

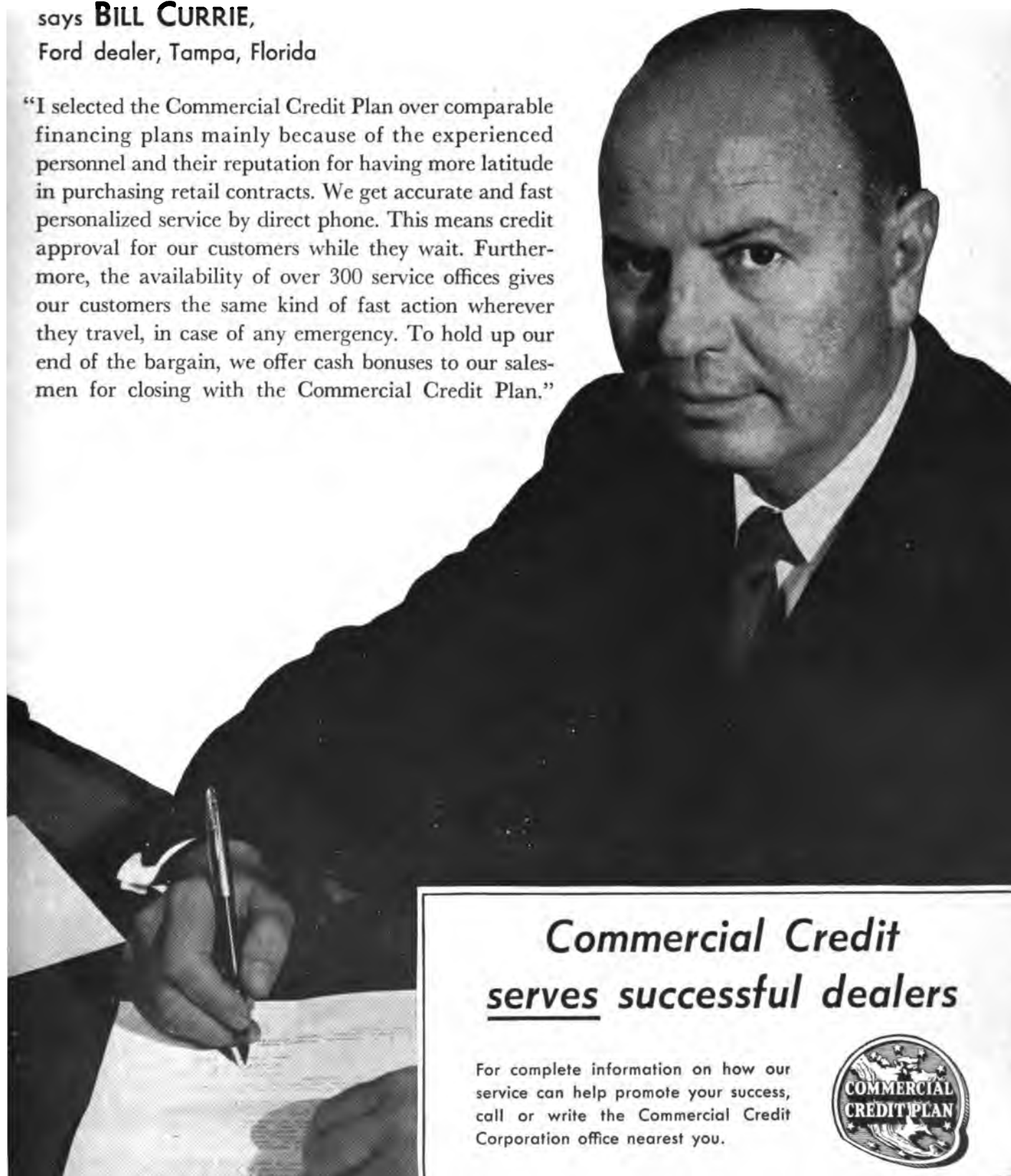
Each of the four regional business conferences held by the Automotive Service Industry Assn. for manufacturer members was well attended. The New York meeting held recently concluded a series of meetings held at Chicago, Detroit and Cleveland.

[CONTINUED ON PAGE 2]

“...accurate and fast personalized service by direct phone”

says **BILL CURRIE,**
Ford dealer, Tampa, Florida

“I selected the Commercial Credit Plan over comparable financing plans mainly because of the experienced personnel and their reputation for having more latitude in purchasing retail contracts. We get accurate and fast personalized service by direct phone. This means credit approval for our customers while they wait. Furthermore, the availability of over 300 service offices gives our customers the same kind of fast action wherever they travel, in case of any emergency. To hold up our end of the bargain, we offer cash bonuses to our salesmen for closing with the Commercial Credit Plan.”



Commercial Credit serves successful dealers

For complete information on how our service can help promote your success, call or write the Commercial Credit Corporation office nearest you.



News for Jobbers

continued from page 68

Topics discussed at the conference included redistribution, distribution changes, warranties and obsolescence, premiums and the competition offered by imports.

Harold T. Halfpenny, ASIA counsel, filled in members on legal developments. J. L. Wiggins, ASIA executive vice president, presided at the conferences.

Chevrolet Moves Parts Center

Chevrolet Motor Div.'s national parts and accessories operations headquarters are being moved from Detroit to Flint, Mich. All warehousing and distribution will be quartered in the newly expanded center at Otterburn, south of Flint. Department heads will be shifted from the General Motors Building in Detroit. Although Chevrolet maintains 40 other warehouses in various parts of the country, many old and slow-moving parts are carried only in the central warehouse.

Parts Makers Increase Sales 7.58 Per Cent

Manufacturer members of the Motor and Equipment Manufacturers Assn. boosted sales in the first nine months of this year by 7.58 per cent, compared with the same period in 1960, according to the MEMA quarterly survey. Members showing increases outnumbered those showing decreases by two to one. Third quarter increases averaged 5.88 per cent.

Chemicals showed the greatest increase by product groups, topping 1960 figures by 22 per cent in nine months. Accessory makers bettered their business by 2.35 per cent and parts makers by 8.8 per cent. Shop equipment manufacturers reported a gain of only .9 per cent.

Discrimination Banned

In a consent order approved by the Federal Trade Commission, the Pittsburgh Plate Glass Co. has agreed not to discriminate among competing resellers of its automotive replacement glass. The complaint had charged that the company had given Autoglass Installa-

tion Dealers services not available to competing dealers.

The company, the complaint set forth, had listed the AID dealers in telephone directories, directing attention of prospective customers to AID dealers.

Diesel Men Plan Trip

Following the regular meetings scheduled next September at Hartford, Conn., the Assn. of Diesel Specialists will offer a trip to Great Britain, Germany and France.

There will be time to include a visit to the London Automobile Show. The next scheduled meeting of the association will be held in New Orleans, Feb. 14-18.

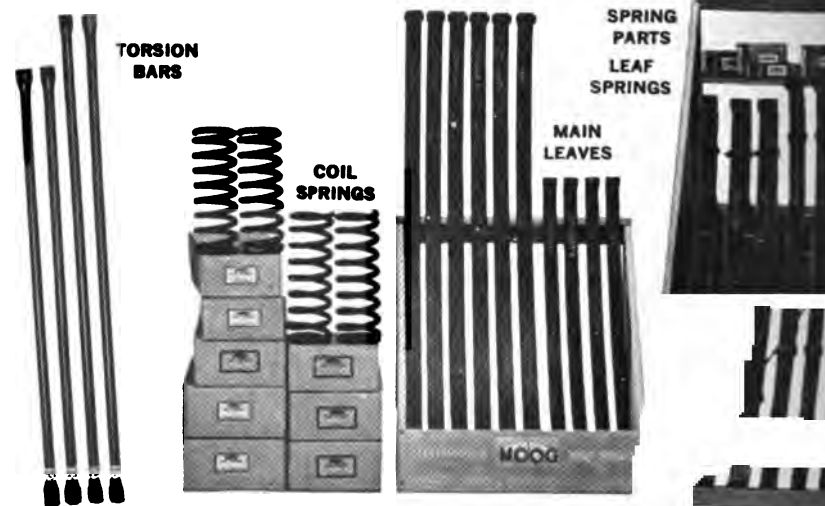
Opens Research Lab

The Paint Div. of the Pittsburgh Plate Glass Co. has opened a consumer products research laboratory at Springdale, Pa. More than 200 of the company's 500 scientists and technicians are located at the new center.



YOU MAKE MONEY

10 feet of wall space is all you need for this fast-selling spring assortment. Compact, convenient display racks and wall banners identify you as a MOOG Spring-Suspension Specialist!



Jobber Groups' Buying Called Illegal

Automotive Jobbers, Inc., Dallas, and Ark-La-Tex Warehouse Distributors, Inc., Paris, Tex., have been ordered by a Federal Trade Commission examiner to "stop knowingly inducing and receiving illegal price advantages from suppliers." The order affects 41 wholesalers in Texas and adjoining states.

Disposition of the cases will vary, because of the new FTC rules. Neither decision is final and the

Automotive Jobbers case may be appealed, stayed or reviewed. The Ark-La-Tex case comes under the new rule which prevents appeal but permits its review by the FTC.

As in similar cases, the FTC charges the defendants are not distributors but mere bookkeeping devices to obtain lower prices.

Buys Mirror Business

The automotive mirror business of the Supersite Corp., Derby, Conn., has been purchased by the

Standard-Thomson Corp., Waltham, Mass. Supersite's equipment, inventory and rights to the names under which its mirrors have been sold are included in the deal.

Distribution Plan Banned by FTC

Agreements between the Snap-On Tool Corp. and its independent dealers have been called illegal by the Federal Trade Commission and have been ordered stopped.

The agreements, according to the FTC, established retail prices for the company's products, restricted sales territories and the customers whom dealers could sell, and forbade salesman, on leaving Snap-On, to engage in any similar business for a year.

The original complaint of three years ago would have been dismissed if the hearing examiner's recommendation had been followed, but the decision was vacated by the full commission.

Appeals by Buying Groups Rejected

The U.S. Supreme Court has declined to review an Appeals Court decision in the Mid-South Distributors and Cotton States, Inc., case.

The lower court had approved a cease and desist order against the defendants, forbidding them to join in a buying group to obtain discriminatory prices.

Lube Association Elects Johnson

C. L. Johnson has been named president of the National Lubricating Grease Institute. He is president of Jesco Lubricants Co., Inc., North Kansas City, Mo.

T. F. Shaffer, Shell Oil Co., New York, moved up from secretary to vice president. W. A. Magie, Magie Brothers Oil Co., Franklin Park, Ill., was named secretary.

Champion Wins

A judgment in federal court has awarded Champion Spark Plug Co. more than \$200,000 in its suit against two East Coast exporters. The export firms, according to the complaint, bought 1,300,000 spark

[CONTINUED ON PAGE 72]



IN ALL THREE...

When you become MOOG SPRING- SUSPENSION HEADQUARTERS

car on the road uses either leaf coil springs or torsion bars... you all need replacing sooner or later. Why pass up this bread-and-butter business when a small MOOG assortment lets you cash in on a growing car that comes your way? Easy to spot 'em, easy to replace. At a quick, neat profit for you!

MOOG has specialized in making springs for over 40 years and knows all

the tricks of giving them extra long life and elasticity. Your MOOG jobber or distributor can give you expert advice in selecting the right size MOOG spring stock for your particular operation. Get in touch with him today!



MOOG INDUSTRIES, INC., St. Louis 33, Mo.

MOOG MEANS MORE UNDER-CAR BUSINESS

News for Jobbers

continued from page 71

plugs for export but instead they were diverted and dumped on the U.S. market.

The exporters were J. Olsen Trading Co. and Argentine American Export and Import Corp.

Sorenson Moves

A new home at Glasgow, Ky., has been occupied by the P. Soren-

son Manufacturing Co. The 61-year-old ignition firm has opened a New York office at Great Neck, L.I.

Cited on Ads

Stewart Auto Upholstering Co., Washington, D.C., has been ordered by the Federal Trade Commission to stop what the commission calls deceptive pricing, savings and guarantee claims in its advertising for seat covers, convertible tops and floor mats. According to the FTC, the guarantees contained

terms and conditions not disclosed in the firm's advertisements. This is a preliminary order and may be reviewed by the commission.

Battery Makers Name Wanvig

C. O. Wanvig, Jr., president of Globe-Union, Inc., is the new president of the Assn. of American Battery Manufacturers.

F. J. Port, vice president, Automotive Div., Electric Storage Battery Co., has been named first vice president and L. R. Hill, president, Westric Battery Co., Denver, is the new second vice president.

W. F. Price, Jr., president of Price Battery Corp., Hamburg, Pa., is treasurer, and B. B. Steiner, Cumberland Battery Manufacturing Co., Nashville, Tenn., secretary.

Buys Tool Firm

The Utica Div. of Kelsey-Hayes Co., Utica, N.Y., has bought the Herbrand Tool Div. of Bingham-Herbrand Corp. The Herbrand facilities will be moved to Utica, N.Y.

Western Rebuilders Elect Breithaupt

Leo Breithaupt, Long Beach, Cal., has been elected president of the Western Engine Rebuilders Assn. Clyde Wright, San Diego, has been named vice president. Ted Goepfert, Oakland, is the new secretary-treasurer.

Speakers at the convention included several outstanding technical men from ring and bearings manufacturers. Daniel Hartnett, of ASIA, spoke on the proposed safety inspection law for California, and the association passed a resolution endorsing such a law.

Porter Honored

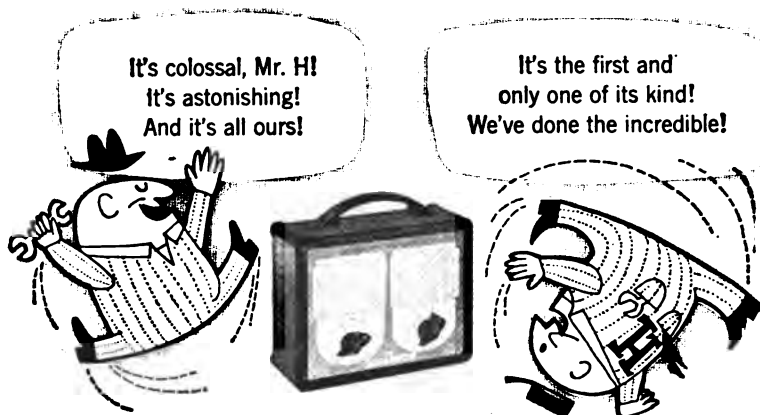
The Distinguished Service Award has been bestowed on H. K. Porter, Inc., Somerville, Mass., by the Automotive Service Industry Assn. for "exemplary and enduring service."

Space Drawings Held For Coast Show

Space drawings for the 1962 Pacific Automotive Show, to be held at Portland, Ore., March 21-25, were held last month.

[CONTINUED ON PAGE 74]

A few calm statements by Hinckley Myers about their new product, FASTESTOR



"Take a bow, Mr. H, while I tell 'em about Fastestor, our new fuel and temperature indicator systems testing instrument . . . how it checks fuel and temperature dash gauges, wiring harnesses and gas tank and engine heat sending units."

"Keep talking, Mr. M. I can't stop bowing."

"With our Fastestor, servicemen can now get right to the trouble spot in fuel and temperature indicator systems. No more time-consuming replacement of the gauge, sending units and wiring harness! No more trial and error method of testing with a stock unit."

"A real speeder up-er, eh, Mr. M?"

"Minutes! Mere minutes for a simple hook-up of the Fastestor and all cars with one-wire systems are quickly diagnosed for faulty components. And it's made to remain up-to-date for years! And gad, Mr. H, the price is phenomenally low!

"And don't you just love the name, Mr. H?"

See the Fastestor display at your H-M Jobber.

Air Conditioning Service Unit



Complete servicing Station: purging, evacuating, charging, testing. Exclusive feature: controlled heat of refrigerant.

Hang-Over Tune-up Hoist



Slides you over the engine for close work. Adjustable, lightweight. Easy to store. No more damaged fenders.



SELECT SERVICE TOOLS & EQUIPMENT

hinckley myers company

28501 mound road, warren, michigan
sales department

61-4HM



ONE-STOP SOURCE FOR HEAVY-DUTY ENGINE PARTS

Need heavy-duty engine parts? Automotive engine parts? Filters? If your requirements call for the best of these, if you need them fast and need them right . . . turn to the Gould-National Engine Parts Division.

Here is a one-stop source of supply for piston rings; cast iron and aluminum-alloy pistons; piston pins; sleeves; sleeve assemblies; valves; valve train parts; oil, air and fuel filters; and other specialized engine parts.

You can get individual parts to meet your exact requirements, or packaged Superior-Arrowhead "matched and compatible" sleeve assemblies and Pedrick Precisioneered® piston ring sets.

Complete line of Superior-Arrowhead foreign car engine parts also available.

For more information on these quality products write the nation's largest basic manufacturer of heavy-duty and specialized engine parts . . .



ENGINE PARTS DIVISION

GOULD-NATIONAL BATTERIES, INC.
St. Paul 1, Minnesota

Superior-Arrowhead is a trademark of Gould-National Batteries, Inc.

News for Jobbers

continued from page 72

The half-day meetings on management subjects, an innovation next year, will be presented by Carlton A. Pederson, associate dean of the Graduate School of Business, Stanford University.

Jobber Doings

Lee Motor Products, Inc., Cleveland, has bought Atlantic Ware-

house, Inc., West Palm Beach, Fla. Recently, Lee purchased Miami Parts and Spring, Inc., Miami. Lee is a warehouse distributor.

Economy Warehouse Supply, Inc., warehouse distributor of Newark, N.J., has opened an affiliated outlet at New Brunswick, N.J., called Economy-New Brunswick.

Gulf and Western Industries, Inc., acquired an additional 54 outlets during the fiscal year ended last July 31, according to the com-

pany's annual report. This raises the total number of wholesale outlets of the company to 92. Earnings, according to the report, were \$1.10 a share for the fiscal year, compared with 85 cents in the previous fiscal year.

Manufacturer's Personnel

JOHN H. SLEMENDA to sales manager, Hypressure Jenny Div., Homestead Valve Manufacturing Co.

W. M. CAMPBELL to board chairman, E. H. PETERSON to president, R. W. MITCHELL to first vice president and W. A. MAYS to second vice president, Magnus Chemical Co., Inc.

EDWARD BOLTZ to executive vice president and general manager, Allen Electric and Equipment Co.

H. P. CARDON to general sales manager and K. W. von GRUBEN to assistant general sales manager, Kent-Moore Service Tool Div.

ROBERT McCALLISTER to marketing manager, Automotive and Hardware Div., Gates Rubber Co.

JAMES E. HARRISON to marketing manager, Semiconductor Div., The Bendix Corp.

ROBERT M. BURCH to director of automotive original equipment and L. J. McGRADY to director of advertising, the Electric Autolite Co.

DAVID A. TAYLOR to manager of advertising and sales promotion, Walker Manufacturing Co.

ROBERT H. MOHME to president, succeeding ERNEST L. WYLIE, retired, and GLEN F. MEYER to executive vice president, Champ Items, Inc.

THOMAS E. FARREL to marketing manager, Rubber Products Div., Dayco Corp.

W. F. NEWTON to director of new marketing planning department, Pittsburgh Plate Glass Co.

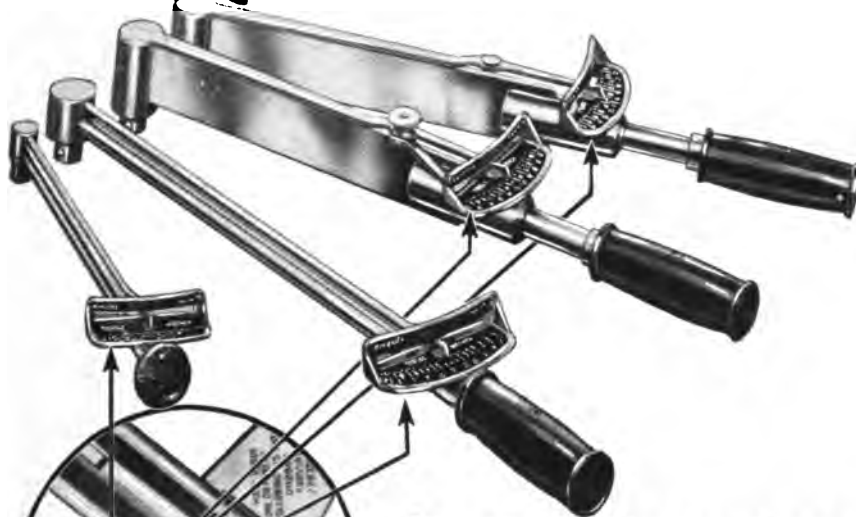
HARRY FERGUSON to national accounts sales manager, Blackhawk Manufacturing Co.

J. J. CODY to new position of jobber sales manager, Binks Manufacturing Co.

WESLEY J. KILEY to manager new Porto-Power Div., and LAWRENCE J. LUCAS to manager new Lifting Equipment Div., Blackhawk Manufacturing Co.

G. ROBERT JORDAN to market analysis manager, Sparton Corp.

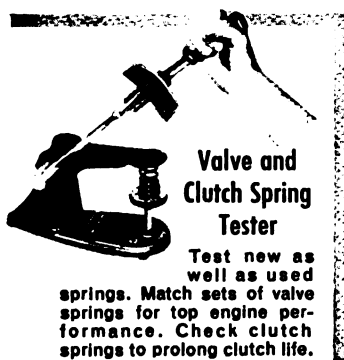
TORQUE WRENCHES



This Mark* Guarantees:

1. Guaranteed accurate forever within 2% of maximum scale reading.
2. The only wrench that permits accurate use of adapter & extensions. Patented pivoted handle permits concentrated load position—the only way to obtain accuracy with adapters and extensions.
3. Rugged construction. Can be stored in a tool box with other tools.
4. Easy to use as any socket wrench.
5. Signalling models and direct reading styles to choose from.
6. A complete range to choose from to meet every service application.

*These are the same torque wrenches used and recommended by leading engine and equipment builders.



Valve and Clutch Spring Tester

Test new as well as used springs. Match sets of valve springs for top engine performance. Check clutch springs to prolong clutch life.

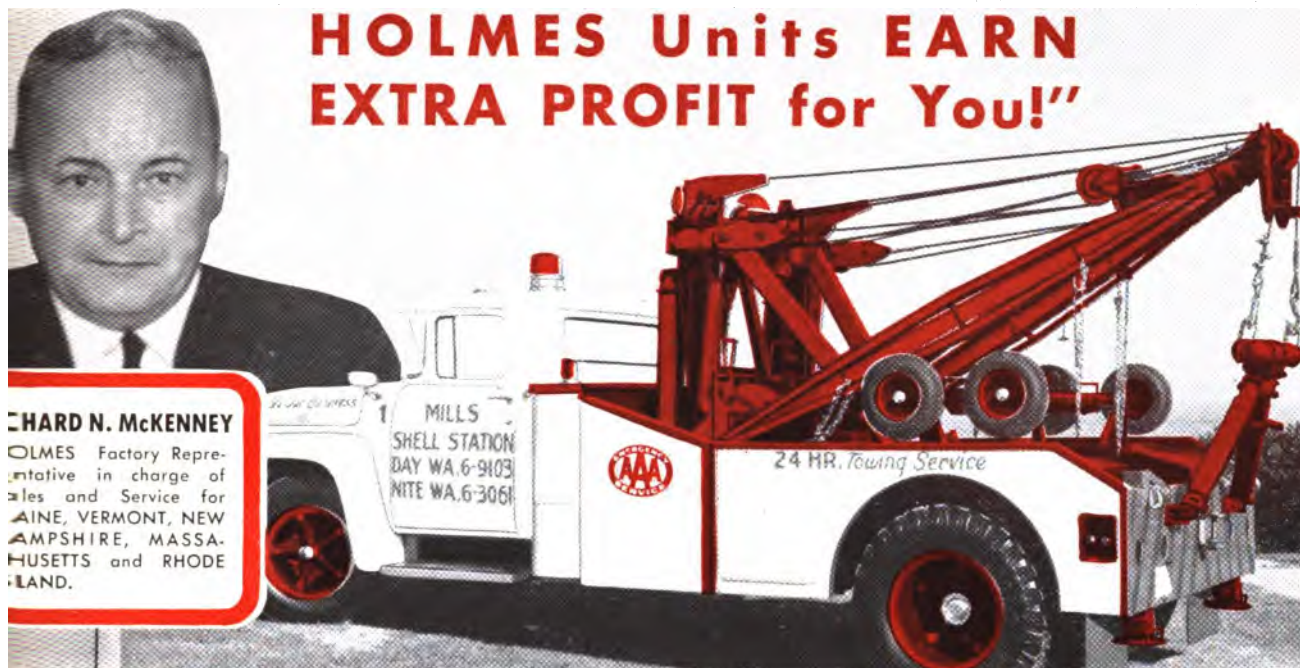
FREE

Torque Specification Book for over 130 makes and more than 1200 models of automobiles, (U.S. and foreign) trucks, tractors, outboards, motorcycles, diesel, aircraft, marine and small air cooled engines. Spark plug, wheel bearing, valve spring data and many helpful torque tips sent free upon request, write Dept. 604



PA **STURTEVANT CO.**
ADDITION [QUALITY] ILLINOIS

"Let this COMBINATION of HOLMES Units EARN EXTRA PROFIT for You!"



HOLMES 650 WRECKER

Powerful Heavy Duty Model. Rated capacity 20 tons. with two speeds of operation — SLOW for Heavy Trucks and Busses — FAST for Cars and Light Trucks. Power operated with double swinging booms, dual rear end rollers, outrigger legs and many other tried, tested and proven HOLMES features. For installation on trucks with minimum of 22,000 G.V.W.

HOLMES 400 WRECKER

Small, compact, single boom unit for light pick-up and van. Rated capacity 4 tons. Handles all cars, is FAST FLEXIBLE. Power operated, has own rapid reverse transmission for rear end control from either side. For installation on most any 1/2 to 1 1/2 ton truck with a rear take-off.

NEW ENGLAND USER PROVES VALUE of Having Both LARGE and SMALL WRECKERS

★ See us at the NADA SHOW,
BOOTH 700-705



MILLS SHELL SERVICE STATION, Hampton, N. H., shows what can be done with a combination of HOLMES WRECKER Units. This Station has a very lucrative business they attribute to the operation of 3 HOLMES Units; a Heavy Duty 650 Model and TWO of the lighter 400 Models. Use of such equipment enables the Station to render — a complete 100% Road Service, without regard to size or weight of the job. It makes no difference if there are two or three vehicles involved, the Station has on hand for immediate use, wrecker units of the size and capacity to handle any emergency that may occur in the community. The providing of such service is a highly profitable operation. One that pays *extra dividends* from pick-up and towing service — repairs and service on jobs pulled in. If YOU are NOT providing complete 100% Road Service in your community, then let us show HOW a combination of HOLMES Units CAN earn extra profits for YOU.

HOLMES offers a wide choice of Wrecker Models. Sizes from 3 to 40 ton capacity — ranging in price from \$450.00 up. All on Easy TERMS — up to 6 years to pay. Send Today for full details.



ERNEST HOLMES COMPANY
Chattanooga 7, Tennessee

Prices on 1962 Passenger Cars

FACTORY DELIVERED PRICES AND BODY STYLES

Body, Make and Model	Wheelbase	Factory Delivered Price	Power Brakes	Power Steering	Cheapest Radio	Cheapest Heater	Air Conditioning	Automatic Transmission
BUICK								
Special								
Club Coupe	112	2301	42	86	65	Std	351	189
Sedan 4d	112	2358	42	86	65	Std	351	189
Convertible	112	2587	42	86	65	Std	351	189
Station Wagon 6p	112	2655	42	86	65	Std	351	189
Station Wagon 9p	112	2736	42	86	65	Std	351	189
Special Deluxe								
Sedan 4d	112	2593	43	86	65	Std	351	189
Convertible	112	2879	43	86	65	Std	351	189
Station Wagon 6p	112	2890	43	86	65	Std	351	189
Skylark								
Hardtop 2d	112	2787	43	86	65	Std	351	189
LeSabre								
Club Coupe	123	3091	43	107	90	Std	430	Std
Sedan 4d	123	3227	43	107	90	Std	430	Std
Hardtop 2d	123	3263	43	107	90	Std	430	Std
Hardtop 4d	123	3369	43	107	90	Std	430	Std
Invicta								
Hardtop 2d	123	3733	43	107	90	Std	430	Std
Hardtop 4d	123	3667	43	107	90	Std	430	Std
Convertible	123	3617	43	107	90	Std	430	Std
Station Wagon 6p	123	3836*	43	107	90	Std	430	Std
Station Wagon 9p	123	3917*	43	107	90	Std	430	Std
Electra								
Sedan 4d	126	4051	Std	Std	90	Std	430	Std
Hardtop 2d	126	4062	Std	Std	90	Std	430	Std
Hardtop 4d	126	4186†	Std	Std	90	Std	430	Std
Convertible	126	4366	Std	Std	90	Std	430	Std
CADILLAC								
Series 62								
Hardtop 2d	129½	5025	Std	Std	164	Std	473	Std
Hardtop 4d	129½	5213	Std	Std	164	Std	473	Std
Convertible	129½	5688	Std	Std	164	Std	473	Std
Coupe DeVille								
Hardtop 2d	129½	5385	Std	Std	164	Std	473	Std
Sedan DeVille								
Sedan 4d	129½	5631	Std	Std	164	Std	473	Std
Sixty Special								
Sedan 4d	129½	6366	Std	Std	164	Std	473	Std
Eldorado Biarritz								
Convertible	129½	6610	Std	Std	164	Std	473	Std
Series 75								
Sedan 9p	149½	9722	Std	Std	246	Std	623	Std
Limousine	149½	9937	Std	Std	246	Std	623	Std
CHEVROLET								
Corvair								
Club Coupe 500	108	1992	No	No	56	Std	349	156
Club Coupe 700	108	2057	No	No	56	Std	349	156
Sedan 4d 700	108	2111	No	No	56	Std	349	156
Station Wagon 700	108	2407	No	No	56	Std	349	156
Club Coupe Monza	108	2273	No	No	56	Std	349	156
Sedan 4d Monza	108	2273	No	No	56	Std	349	156
Station Wagon Monza	108	2569	No	No	56	Std	349	156
Chevy II								
Club Coupe 100 4 cyl. A	110	2003	43	75	56	Std	317	167
Sedan 4d 100	110	2041	43	75	56	Std	317	167
Station Wagon 100	110	2339	43	75	56	Std	317	167
Club Coupe 300 4 cyl. A	110	2084	43	75	56	Std	317	167
Sedan 4d 300	110	2122	43	75	56	Std	317	167
Station Wagon 300 (9p only)	110	2517	43	75	56	Std	317	167
Hardtop 2d 400 6 cyl.	110	2264	43	75	56	Std	317	167
Convertible 400	110	2475	43	75	56	Std	317	167
Station Wagon 400	110	2497	43	75	56	Std	317	167
Biscayne 6 cyl.								
Club Coupe 2d	119	2324	43	75	56	Std	363	199
Sedan 4d	119	2378	43	75	56	Std	363	199
Station Wagon	119	2725	43	75	56	Std	363	199
Bel Air 6 cyl.								
Club Coupe 2d	119	2456	43	75	56	Std	363	199
Sedan 4d	119	2510	43	75	56	Std	363	199
Hardtop 2d	119	2561	43	75	56	Std	363	199
Station Wagon 6p	119	2819	43	75	56	Std	363	199
Station Wagon 9p	119	2922	43	75	56	Std	363	199
Impala 6 cyl.								
Sedan 4d	119	2662	43	75	56	Std	363	199
Hardtop 2d	119	2669	43	75	56	Std	363	199
Hardtop 4d	119	2734	43	75	56	Std	363	199
Convertible	119	2919	43	75	56	Std	363	199
Station Wagon 6p	119	2961	43	75	56	Std	363	199
Station Wagon 9p	119	3064	43	75	56	Std	363	199
Corvette	102	4038	No	No	137	Std	No	199
CHRYSLER								
Newport								
Sedan 4d	122	2964	47	107	92	101	512	
Hardtop 2d	122	3027	47	107	92	101	512	
Hardtop 4d	122	3106	47	107	92	101	512	
Convertible	122	3399	47	107	92	101	512	
Station Wagon 6p	122	3478	47	107	92	101	No	
Station Wagon 9p	122	3586	47	107	92	101	No	
Series 300								
Hardtop 2d	122	3323	47	107	92	101	512	
Hardtop 4d	122	3430	47	107	92	101	512	
Convertible	122	3673	47	107	92	101	512	
New Yorker								
Sedan 4d	126	4125	Std	Std	92	101	512	
Hardtop 4d	126	4223	Std	Std	92	101	512	
Station Wagon 6p	126	4766	Std	Std	92	101	No	
Station Wagon 9p	126	4873	Std	Std	92	101	No	
Series 300H								
Hardtop 2d	122	5015	Std	Std	92	101	512	
Convertible	122	5386	Std	Std	92	101	No	
DODGE								
Lancer 170								
Sedan 2d	106	1951	42	76	58	74	445	
Sedan 4d	106	2011	42	76	58	74	445	
Station Wagon 6p	106	2306	42	76	58	74	445	
Lancer 770								
Sedan 2d	106	2052	42	76	58	74	445	
Sedan 4d	106	2114	42	76	58	74	445	
Station Wagon 6p	106	2408	42	76	58	74	445	
G. T. Series								
Hardtop 2d	106	2257	42	76	58	74	445	
Dart								
Club Coupe 6 cyl.	116	2241	42	76	58	74	445	
Sedan 4d 6 cyl.	116	2297	42	76	58	74	445	
Station Wagon 6p 6 cyl.	116	2644	42	76	58	74	445	
Club Coupe V-8	116	2348	42	76	58	74	445	
Sedan 4d V-8	116	2404	42	76	58	74	445	
Station Wagon 6p V-8	116	2751	42	76	58	74	445	
Dart 330								
Club Coupe 6 cyl.	116	2375	42	76	58	74	445	
Hardtop 2d 6 cyl.	116	2463	42	76	58	74	445	
Sedan 4d 6 cyl.	116	2432	42	76	58	74	445	
Station Wagon 6p 6 cyl.	116	2739	42	76	58	74	445	
Club Coupe V-8	116	2462	42	76	58	74	445	
Hardtop 2d V-8	116	2570	42	76	58	74	445	
Sedan 4d V-8	116	2540	42	76	58	74	445	
Station Wagon 6p V-8	116	2848	42	76	58	74	445	
Station Wagon 9p V-8	116	2949	42	76	58	74	445	
Dart 440								
Hardtop 2d 6 cyl.	116	2606	42	76	58	74	445	
Sedan 4d 6 cyl.	116	2584	42	76	58	74	445	
Hardtop 2d V-8	116	2713	42	76	58	74	445	
Sedan 4d V-8	116	2691	42	76	58	74	445	
Hardtop 4d V-8	116	2763	42	76	58	74	445	
Convertible V-8	116	2945	42	76	58	74	445	
Station Wagon 6p V-8	116	2989	42	76	58	74	445	
Station Wagon 9p V-8	116	3042	42	76	58	74	445	
Polara 500								
Hardtop 2d	116	3019	42	76	58	74	445	
Hardtop 4d	116	2960	42	76	58	74	445	
Convertible	116	3268	42	76	58	74	445	
FORD								
Falcon								
Club Coupe (Std.)	109½	1985	No	No	58	Std	No	
Club Coupe (Deluxe)	109½	2071	No	No	58	Std	No	
Sedan 4d (Std.)	109½	2047	No	No	58	Std	No	
Sedan 4d (Deluxe)	109½	2133	No	No	58	Std	No	
Futura	109½	2232	No	No	58	Std	No	
Station Wagons								
2d (Std.)	109½	2298	No	No	58	Std	No	
2d (Deluxe)	109½	2384	No	No	58	Std	No	
4d (Std.)	109½	2341	No	No	58	Std	No	
4d (Deluxe)	109½	2427	No	No	58	Std	No	
Falcon Squire	109½	2603	No	No	58	Std	No	
Galaxie								
Club Coupe	119	2453	43	81	58	Std	36	
Sedan 4d	119	2507	43	81	58	Std	36	
Club Coupe 500	119	2613	43	81	58	Std	36	
Sedan 4d 500	119	2667	43	81	58	Std	36	
Hardtop 2d 500	119	2674	43	81	58	Std	36	
Hardtop 4d 500	119	2739	43	81	58	Std	36	
Sunliner	119	2924	43	81	58	Std	36	
Hardtop 2d 500XL	119	2999	43	81	58	Std	36	
Convertible 500XL	119	3240	43	81	58	Std	36	
Station Wagons								
Ranch Wagon 4d 6p	119	2733	43	81	58	Std	36	
Sedan 4d 6p	119	2829	43	81	58	Std	36	
Sedan 4d 6p	119	2933	43	81	58	Std	36	
Squire 4d 6p	119	3018	43	81	58	Std	36	
Squire 4d 9p	119	3088	43	81	58	Std	36	

Prices shown on these pages are those which manufacturers would charge for cars if delivered to retail buyers at their main factories. They include federal tax and a delivery charge but no freight, state or local excise taxes, or optional equipment.

NA—Not available.

*—Estate Wagon.

†—Also available—Riviera Sedan—\$4448.

†—Not available on standard transmissions.

Body, Make and Model	Wheelbase	Factory Delivered Price	Power Brakes	Power Steering	Cheapest Radio	Cheapest Heater	Air Conditioning	Automatic Transmission	Body, Make and Model	Wheelbase	Factory Delivered Price	Power Brakes	Power Steering	Cheapest Radio	Cheapest Heater	Air Conditioning	Automatic Transmission
le (Regular).....	113	4321	Std	Std	112	Std	415	Std	Station Wagon 6p.....	116	2708	42	76	58	74	445	191
adster.....	113	4398	Std	Std	112	Std	415	Std	Fury 6 Cyl.....	116	2563	42	76	58	74	445	191
	113	4788	Std	Std	112	Std	415	Std	Sedan 4d.....	116	2585	42	76	58	74	445	191
	113	5439	Std	Std	112	Std	415	Std	Hardtop 2d.....	116	2313	42	76	58	74	445	210
IL									Savoy 8 Cyl.....	116	2369	42	76	58	74	445	210
ton 2d.....	129	4920	Std	Std	153	136	590	Std	Station Wagon 6p.....	116	2717	42	76	58	74	445	210
ton 4d.....	129	5106	Std	Std	153	136	590	Std	Belvedere 8 Cyl.....	116	2150	42	76	58	74	445	210
ton 2d.....	129	5400	Std	Std	153	136	590	Std	Sedan 2d.....	116	2507	42	76	58	74	445	210
ton 4d.....	129	5644	Std	Std	153	136	590	Std	Sedan 4d.....	116	2538	42	76	58	74	445	210
le.....	129	5770	Std	Std	153	136	590	Std	Hardtop 2d.....	116	2815	42	76	58	74	445	210
ton 4d.....	129	6422	Std	Std	153	136	590	Std	Station Wagon 6p.....	116	2917	42	76	58	74	445	210
N CONTINENTAL									Fury.....	116	2693	42	76	58	74	445	210
le.....	123	6074	Std	Std	Std	Std	504	Std	Hardtop 2d.....	116	2670	42	76	58	74	445	210
	123	6720	Std	Std	Std	Std	504	Std	Hardtop 4d.....	116	2742	42	76	58	74	445	210
Y									Convertible.....	116	2924	42	76	58	74	445	210
se.....	114	2064	No	No	58	Std	270	171	Station Wagon 6p.....	116	2968	42	76	58	74	445	210
agon 2d.....	114	2139	No	No	58	Std	270	171	Station Wagon 9p.....	116	3071	42	76	58	74	445	210
agon 4d.....	114	2396	No	No	58	Std	270	171	PONTIAC								
es.....	114	2439	No	No	58	Std	270	171	Tempest.....								
se.....	114	2171	No	No	58	Std	270	171	Club Coupe.....	112	2186	No	75	62	Std	318	172
agon 2d.....	114	2226	No	No	58	Std	270	171	Sedan 4d.....	112	2240	No	75	62	Std	318	172
agon 4d.....	109	2483	No	No	58	Std	270	171	Convertible.....	112	2564	No	75	62	Std	318	172
se 622 Cyl.....	109	2526	No	No	58	Std	270	171	Station Wagon 6p.....	112	2511	No	75	62	Std	318	172
se.....	120	2672	43	81	58	Std	360	179	Catalina.....	120	2725	43	107	88	Std	430	No
d.....	120	2726	43	81	58	Std	360	179	Club Coupe.....	120	2796	43	107	88	Std	430	No
d.....	120	2733	43	81	58	Std	360	179	Sedan 4d.....	120	2860	43	107	88	Std	430	No
agon 6p.....	120	2798	43	81	58	Std	360	179	Hardtop 2d.....	120	2860	43	107	88	Std	430	No
Cyl.....	120	2920	43	81	58	Std	360	179	Hardtop 4d.....	120	2926	43	107	88	Std	430	No
se.....	120	2781	43	81	58	Std	360	189	Convertible.....	120	3172	43	107	88	Std	430	No
d.....	120	2835	43	81	58	Std	360	189	Station Wagon 6p.....	119	3193	43	107	88	Std	430	No
d.....	120	2842	43	81	58	Std	360	189	Station Wagon 9p.....	119	3301	43	107	88	Std	430	No
agon 6p.....	120	2907	43	81	58	Std	360	189	Star Chief.....	123	3097	43	107	88	Std	430	231
es.....	120	3029	43	81	58	Std	360	189	Sedan 4d.....	123	3230	43	107	88	Std	430	231
d.....	120	2965	43	81	58	Std	360	189	Hardtop 4d.....	123	3230	43	107	88	Std	430	231
d.....	120	2972	43	81	58	Std	360	189	Bonneville.....	123	3349	43	107	88	Std	430	231
le.....	120	3037	43	81	58	Std	360	189	Hardtop 2d.....	123	3425	43	107	88	Std	430	231
agon 6p.....	120	3222	43	81	58	Std	360	189	Hardtop 4d.....	123	3425	43	107	88	Std	430	231
	120	3219	43	81	58	Std	360	189	Convertible.....	123	3570	43	107	88	Std	430	231
BILE									Station Wagon 6p.....	119	3624	43	107	88	Std	430	231
pe.....	112	2403	No	86	65	Std	378	189	Grand Prix.....	120	3490	43	107	88	Std	430	231
le.....	112	2457	No	86	65	Std	378	189	Hardtop 2d.....	120	3490	43	107	88	Std	430	231
agon 6p.....	112	2760	No	86	65	Std	378	189	RAMBLER								
agon 9p.....	112	2754	No	86	65	Std	378	189	American.....	100	1846	39	72	52	74	360	164
	112	2835	No	86	65	Std	378	189	Club Coupe Deluxe.....	100	1909	39	72	52	74	360	164
pe.....	112	2694	No	86	65	Std	378	189	Club Coupe Custom.....	100	2040	39	72	52	74	360	164
le.....	112	2971	No	86	65	Std	378	189	Sedan 4d Deluxe.....	100	1895	39	72	52	74	360	164
d.....	123	2997	48	107	88	Std	430	231	Sedan 4d Custom.....	100	1958	39	72	52	74	360	164
d.....	123	3054	48	107	88	Std	430	231	Sedan 4d 400.....	100	2089	39	72	52	74	360	164
d.....	123	3131	48	107	88	Std	430	231	Station Wagon 2d Deluxe.....	100	2081	39	72	52	74	360	164
le.....	123	3381	48	107	88	Std	430	231	Station Wagon 2d Custom.....	100	2141	39	72	52	74	360	164
agon 6p.....	123	3480	48	107	88	Std	430	231	Station Wagon 4d Deluxe.....	100	2130	39	72	52	74	360	164
agon 9p.....	123	3568	48	107	88	Std	430	231	Station Wagon 4d Custom.....	100	2190	39	72	52	74	360	164
d.....	123	3273	48	107	88	Std	430	231	Station Wagon 4d 400.....	100	2320	39	72	52	74	360	164
d.....	123	3422	48	107	88	Std	430	231	Convertible 400.....	100	2344	39	72	52	74	360	164
d.....	123	3499	48	107	88	Std	430	231	Classic.....	108	2000	41	74	64	76	370	186
agon 6p.....	123	3762	48	107	88	Std	430	231	Club Coupe Deluxe.....	108	2150	41	74	64	76	370	186
d.....	126	3984	Std	Std	88	Std	430	Std	Club Coupe Custom.....	108	2299	41	74	64	76	370	186
d.....	126	4180	Std	Std	88	Std	430	Std	Sedan 4d Deluxe.....	108	2050	41	74	64	76	370	186
d.....	126	4256	Std	Std	88	Std	430	Std	Sedan 4d Custom.....	108	2200	41	74	64	76	370	186
le.....	126	4459	Std	Std	88	Std	430	Std	Sedan 4d 400.....	108	2349	41	74	64	76	370	186
d.....	123	4131	Std	Std	88	Std	430	Std	Station Wagon 4d Deluxe.....	108	2380	41	74	64	76	370	186
le.....	123	4744	Std	Std	88	Std	430	Std	Station Wagon 4d Custom.....	108	2492	41	74	64	76	370	186
ITH									Station Wagon 4d 400.....	108	2640	41	74	64	76	370	186
0.....	106 1/2	1930	40	73	58	74	No	171	Station Wagon 5d Custom.....	108	2614	41	74	64	76	370	186
agon 6p.....	106 1/2	1991	40	73	58	74	No	171	Ambassador V-8.....	108	2464	43	81	64	76	399	219
0.....	106 1/2	2285	40	73	58	74	No	171	Sedan 4d Custom.....	108	2805	43	81	64	76	399	219
d (Signet).....	106 1/2	2026	40	73	58	74	No	171	Sedan 4d 400.....	108	2760	43	81	64	76	399	219
agon 6p.....	106 1/2	2087	40	73	58	74	No	171	Station Wagon 4d Custom.....	108	2901	43	81	64	76	399	219
d.....	106 1/2	2230	40	73	58	74	No	171	Station Wagon 5d 400.....	108	3023	43	81	64	76	399	219
agon 6p.....	106 1/2	2381	40	73	58	74	No	171	Lark 6 Cyl.....	109	2009	42	77	56	78	277	171
d.....	116	2206	42	76	58	74	445	191	Club Coupe Deluxe.....	113	2114	42	77	56	78	277	171
d.....	116	2262	42	76	58	74	445	191	Sedan 4d Deluxe.....	113	2470	42	77	56	78	277	171
agon 6p.....	116	2609	42	76	58	74	445	191	Station Wagon 4d Deluxe.....	113	2264	42	77	56	78	277	171
Cyl.....	116	2342	42	76	58	74	445	191	Hardtop 2d Regal.....	109	2292	42	77	56	78	277	171
d.....	116	2399	42	76	58	74	445	191	Convertible Regal.....	109	2263	42	77	56	78	285	171
d.....	116	2431	42	76	58	74	445	191	Station Wagon 4d Regal.....	113	2620	42	77	56	78	277	171
STUDEBAKER									Lark 8 Cyl.....	109	2149	42	77	56	78	277	199
Lark 6 Cyl.....	109	2009	42	77	56	78	277	199	Club Coupe Deluxe.....	113	2254	42	77	56	78	277	199
Club Coupe Deluxe.....	113	2114	42	77	56	78	277	199	Sedan 4d Deluxe.....	113	2610	42	77	56	78	277	199
Sedan 4d Deluxe.....	113	2470	42	77	56	78	277	199	Station Wagon 4d Deluxe.....	113	2104	42	77	56	78	277	199
Station Wagon 4d Deluxe.....	113	2264	42	77	56	78	277	199	Sedan 4d Regal.....	109	2132	42	77	56	78	277	199
Hardtop 2d Regal.....	109	2292	42	77	56	78	277	199	Hardtop 2d Regal.....	109	2803	42	77	56	78	285	199
Convertible Regal.....	109	2263	42	77	56	78	285	199	Station Wagon 4d Regal.....	113	2769	42	77	56	78	277	199
Station Wagon 4d Regal.....	113	2620	42	77	56	78	277	199	Sedan 4d Cruiser Regal.....	113	2572	42	77	56	78	277	199
Lark 8 Cyl.....	109	2149	42	77	56	78	277	199	Daytona Series.....								
Club Coupe Deluxe.....	113	2254	42	77	56	78	277	199	Hardtop 2d 6 Cyl.....	109	2382	42	77	56	78	277	199
Sedan 4d Deluxe.....	113	2610															

Sales Data on 1962 Passenger Cars

ENGINE, PERFORMANCE DATA..POWER KITS..AXLE RATIO..TIRE SIZE

continued from page 77

MAKE AND MODEL	Cylinder and Valve Arrangement	Bore and Stroke	Piston Displacement Cu. In.	Horsepower Taxable	Maximum Brake Hp @ RPM in Hundreds	Maximum Torque Lb.-Ft. @ RPM in Hundreds	With Power Kit or Optional Engine		Compression Ratio	Rear Axle Ratio			Tire Size	Horsepower per Cu. In. Displacement	Lb. Weight per Hp	Engin Rev. per Mile			
							Max. Brake Hp @ RPM in Hundreds	Max. Torque Lb.-Ft. @ RPM in Hundreds		Standard	Optional	With 3-Speed Transmission				With Auto. Transmission	With Overdrive	3-Speed Trans.	Auto. Trans.
Buick Special 4000.	60	3 1/2 x 3 1/2	198	31.54	135@446	205@224	135@446	205@224	8.80	8.80	3.36	3.08	No	6.50x13	682	2859	2621		
Buick Special 4100 & 4300	80	3 1/2 x 2 1/2	215	39.20	185@467	230@287	185@467	230@287	8.80	10.25	3.36	3.08	No	6.50x13	860	2859	2621		
Buick LaSabre.	80	4 1/2 x 3 1/2	401	56.11	286@444	424@242	325@444	445@288	8.25	9.00	2.78	No	No	7.60x15	698	No	2859		
Buick Invicta, Electra.	80	4 1/2 x 3 1/2	401	56.11	325@444	445@288	325@444	445@288	10.25	10.25	3.23	No	No	7.60x15	810	No	2859		
Cadillac 60, 62.	80	4 x 3 1/2	390	51.20	325@448	430@311	No	No	10.50	No	No	2.94	No	8.00x15	833	No	2120		
Cadillac 75.	80	4 x 3 1/2	390	51.20	325@448	430@311	No	No	10.50	No	No	3.36	No	8.20x15	833	16.4	No	2382	
Checker L Head	6L	3 1/2 x 4 3/4	226	26.33	80@311	180@141	No	No	7.3	No	3.73	3.31	4.09	6.70x15	354	41.5	2868	2545	
Checker OHV	60	3 1/2 x 4 3/4	226	26.33	122@40	192@18	No	No	8.0	No	3.73	3.31	4.09	6.70x15	540	27.2	2868	2545	
Chevrolet Corvair.	60	3 1/2 x 2 3/4	145	28.40					8.0	9.0	3.27	3.27	No	6.50x13					
Chevy II 4.	40	3 1/2 x 3 1/4	153	24					8.5:1	8.50	3.08	3.36	No	6.00x13					
Chevy II 6.	60	3 1/2 x 3 1/4	194	30 1/2					8.5	8.5	3.08	3.08	No	6.00x13					
Chevrolet 6.	60	3 1/2 x 3 1/2	235 1/2	30.40	135@40	217@20			8.25	No	3.36	3.36	3.70	7.50x14	530	27.0	2651	2651	
Chevrolet V-8 283 cu. in.	80	3 1/2 x 3	283	48	170@42	275@22	No	No	8.5:1	8.5:1	3.36	3.36	3.70	7.50x14	601	20.3	2651	2651	
Chevrolet V-8 327 cu. in.	80	4 x 3 1/4	327	51 1/4	250@44	350@28	300@50	360@32	10.50	10.50	3.36	3.08	No	7.50x14	722	13.5	2651	2651	
Chevrolet V-8 409 cu. in.	80	4 1/4 x 3 1/2	409	59 1/2	409@60	420@40	No	No	11.00	11.00	3.36	No	No	7.50x14	10	8.4	2617	2617	
Chevrolet Corvette.	80	4 x 3 1/4	327	51 1/4	250@44	350@28	300@50	360@32	10.51	11.25	3.36	3.36	No	6.70x15	722	13.5	2554	2554	
Chrysler Newport.	80	4 1/2 x 3 3/4	361	54.3	265@44	380@24	No	No	9.00	3.23	2.93	No	No	8.00x14	734	14	2690	2227	
Chrysler 300	80	4 1/2 x 3 3/4	383	57.8	305@46	410@24	340@46	470@28	No	10.00	3.23	2.93	No	8.00x14	796	12.5	No	2180	
Chrysler 300H	80	4 1/2 x 3 3/4	413	55.9	380@50	450@36	No	No	10.10	No	3.23	No	No	7.60x15	920	10.5	2188	2188	
Chrysler New Yorker.	80	4 1/2 x 3 3/4	413	55.9	340@46	470@28	No	No	10.10	No	2.93	No	No	8.50x14	823	11.5	No	2143	
Dodge Lancer	60	3 1/2 x 3 1/4	170	27.70	101@44	155@24	145@40	215@28	8.20	No	3.55	3.23	No	6.50x13	594	25.1	3007	2736	
Dodge Dart 6.	60	3 1/2 x 4 1/4	225	27.70	145@40	215@28	305@48	395@30	9.00	No	3.31	2.93	No	6.50x14	644	20.7	2936	2671	
Dodge Dart V-8.	80	3 1/2 x 3 1/2	318	48.00	230@44	340@24	260@44	345@28	9.0	No	3.23	2.76	No	7.00x14	723	13.7	2850	2593	
Dodge Polara V-8.	80	4 1/2 x 3 1/2	361	54.3	305@48	395@30	No	No	10.0	No	3.23	2.76	No	7.00x14	845	10.3	2850	2593	
Dodge D-500 Engine.	80	4 1/2 x 3 3/4	361	54.3	305@48	395@30	No	No	9.0	No	3.23	2.76	No	5.5 x 14	840	8	2593	2216	
Ford Falcon.	60	3 1/2 x 2 1/2	144	29.4	85@42	134@20	101@44	156@24	8.7	8.7	3.10	3.10	No	6.00x13	930	17	2780	2780	
Ford Galaxie 6.	60	3 1/2 x 3 1/2	223	31.5	138@42	203@22	No	No	8.4	No	3.56	3.56	3.89	7.5x14	910	18	2798	2798	
Ford Galaxie 292 cu. in.	V80	3 1/2 x 3 1/2	292	45	170@42	279@22	No	No	8.8	No	3.56	3.56	3.56	7.5x14	955	13	2798	2338	
Ford Galaxie 352 cu. in.	V80	4 x 3 1/2	352	51.2	220@43	336@26	No	No	8.9	No	3.56	3.00	3.56	7.5x14	954	11	2798	2338	
Ford Galaxie 390 cu. in.	V80	4 1/2 x 3 1/2	390	52.4	300@46	427@28	330@50	427@32	9.6	9.6	3.56	3.00	3.56	7.5x15	948	9	2798	2338	
Imperial.	80	4 1/2 x 3 3/4	413	55 1/2	340@46	470@28	No	No	10 1/2	No		2.93		8.20x15	823	13.7	No	2118	
Lincoln Continental.	80	4 1/2 x 3 11/16	430	59.17	300@41	465@20	No	No	10.0	No	No	2.89	No	9.00x14	823	11.5	No	2143	
Mercury Comet.	60	3 1/2 x 2 1/2	144	29.40	85@42	134@20	101@44	156@24	8.7	No	3.50	3.50	No	6.00x13	598	29.9	3139	3138	
Mercury Meteor 6.	60	3 1/2 x 2 1/2	170		101@44	156@24			8.7		3.50			6.50x14	594	29.4			
Mercury 6.	60	3 1/2 x 3 1/2	223	31.54	138@42	203@22	No	No	8 1/2	No	3.56	3.56	No	7.50x14	619	28.8	2798	2798	
Mercury V-8 292 cu. in.	80	3 1/2 x 3 1/2	292	45.00	170@42	279@22	No	No	8 1/2	No	3.56	3.00	No	7.50x14	582	23.4	2798	2338	
Mercury V-8 352 cu. in.	80	4 x 3 1/2	352	51.20	220@43	336@26	No	No	8 1/2	No	3.56	3.00	No	7.50x14	625	18.1	2798	2338	
Mercury V-8 390 cu. in.	80	4 1/2 x 3 1/2	390	52.50	300@46	427@28	330@50	427@32	9.6	No	No	3.00	No	7.50x14	769	13.2	2798	2338	
Oldsmobile F85.	80	3 1/2 x 2 1/2	215 1/2	30 1/2	155@48	210@32	185@48	230@32	8.75	No	3.08	3.23	No	6.50x13	721	16.8	1968	2064	
Oldsmobile 88.	80	4 1/2 x 3 11/16	394	54	280@44	430@24	330@46	440@24	10.75	8.75	3.23	2.87	No	8.00x14	711	14.7	2439	1932	
Oldsmobile Super 88, 98.	80	4 1/2 x 3 11/16	394	54	330@46	440@28	No	No	10.75	No	3.23	2.87	No	8.50x14	837	12.5	2439	2167	
Plymouth Valiant.	60	3 1/2 x 3 1/4	170	27 1/2	101@44	155@24	101@44	155@24	8.20	No	3.55	3.23	No	6.50x13	594	24.7	3006	2736	
Plymouth 6.	60	3 1/2 x 4 1/4	225	27 1/2	145@40	215@28	145@40	215@28	8.20	No	3.31	2.93	No	6.50x14	644	21.4	2936	2671	
Plymouth V-8, 318 cu. in.	80	3 1/2 x 3 1/2	318	48 1/2	260@44	345@28	260@44	345@28	9	No	3.23	2.76	No	7.00x14	818	11.9	2850	2593	
Plymouth V-8, 361 cu. in.	80	4 x 3	361	54 1/2	305@48	395@30	305@48	395@30	9	No	3.23	2.76	No	7.00x14	845	10.2	2850	2593	
Pontiac Tempest.	40	4 1/2 x 3 3/4	194 1/2	26.40	110@30	190@20	185@48	230@28	8.6	8.8	3.31	3.08	No	6.00x15	567	25.6	2631	2448	
Pontiac Catalina, S. Chief.	80	4 1/2 x 3 3/4	389	52.80	215@38	390@20	230@40	380@20	8.6	8.6	3.23	2.69	No	8.00x14	553	17.4	2419	2014	
Pontiac Bonneville.	80	4 1/2 x 3 3/4	389	52.80	235@36	402@20	No	No	8.6	8.6	3.23	3.08	No	8.00x14	604	16.4	2419	2306	
Pontiac Grand Prix.	80	4 1/2 x 3 3/4	389	52.80	303@46	425@28	303@46	425@28	10.25	10.25	3.42	3.25	No	8.00x14	779	9.2	2561	2419	
Rambler Deluxe & Custom.	6L	3 1/2 x 4 1/4	195	6.23	44	90@38	160@16	125@42	180@16	8.0	8.7	2.87	3.31	No	6.00x15	461	27.2	2678	2678
Rambler American 400.	60	3 1/2 x 4 1/4	195	6.23	44	125@42	180@16	No	8.70	No	2.87	2.87	3.31	6.00x15	641	22.9	2321	2321	
Rambler Classic 6.	60	3 1/2 x 4 1/4	195	6.23	44	127@42	180@16	138@45	185@18	8.7	8.7	3.78	3.51	4.11	6.50x15	650	22.5	2997	2624
Rambler Amb. V-8.	80	4 x 3 1/4	327	51.20	250@47	340@20	270@47	360@26	8.7	9.7	3.54	2.87	3.54	7.50x14	764	13.0	2775	2350	
Studebaker Lark 6.	60	3 x 4	169	6.21	60	112@45	154@20	No	8.25	No	3.73	3.73	4.10	6.00x15	663	24.7	2965	2965	
Studebaker Lark V-8.	80	3 1/2 x 3 1/4	259	2.40	60	180@45	260@28	195@45	8.50	No	3.07	3.07	3.54	6.50x15	695	15.4	2549	2364	
Studebaker Hawk V-8.	80	3 1/2 x 3 3/4	289	4.00	60	210@45	300@28	225@45	8.50	No	3.31	3.07	3.54	6.70x15	727	15.4	2492	2312	
Thunderbird.	80	4 1/2 x 3 3/4	390	52.40	300@46	427@28	340@50	430@32	9.6	10.5	No	3.00	No	8.00x14	769	14	No	2331	

a—Invicta figure given, Electra is 8.00x15

b—Invicta figure given, Electra is 2335

h—Suburbans 7.50x14. 9-passenger Suburban, 8.00x14

H—Horizontal opposed

O—Overhead valve

a—Engine option

△—8.50x14 on Newport Station Wagon, 9.00x14 on New Yorker Station Wagon

t—Monza with Powerslide

▽—Figure given for 4300. 4100 figures are 155@4600 for BPH@RPM and

220@24 for Torque@RPM

□—Figure given for Catalina. Star Chief figure is 3.08

◆—Station Wagons 6.50x13

△—Oldsmobile 98, 3-speed transmission not available, tire size—8.50x14, ratio with Hydra-Matic—3.08, lb. Wt. per Hp—13.4, Engine Rev. p 2264

†—Station Wagons have 8.00x14 tires

△—PowerFlite ratio given. Torque Flite is 2.93

△—Invicta figure given. Electra is 12.3

△—Series 60 figure given. Series 62 is 14.3

△—Figure given for 4100. 4300 figure is 10.25

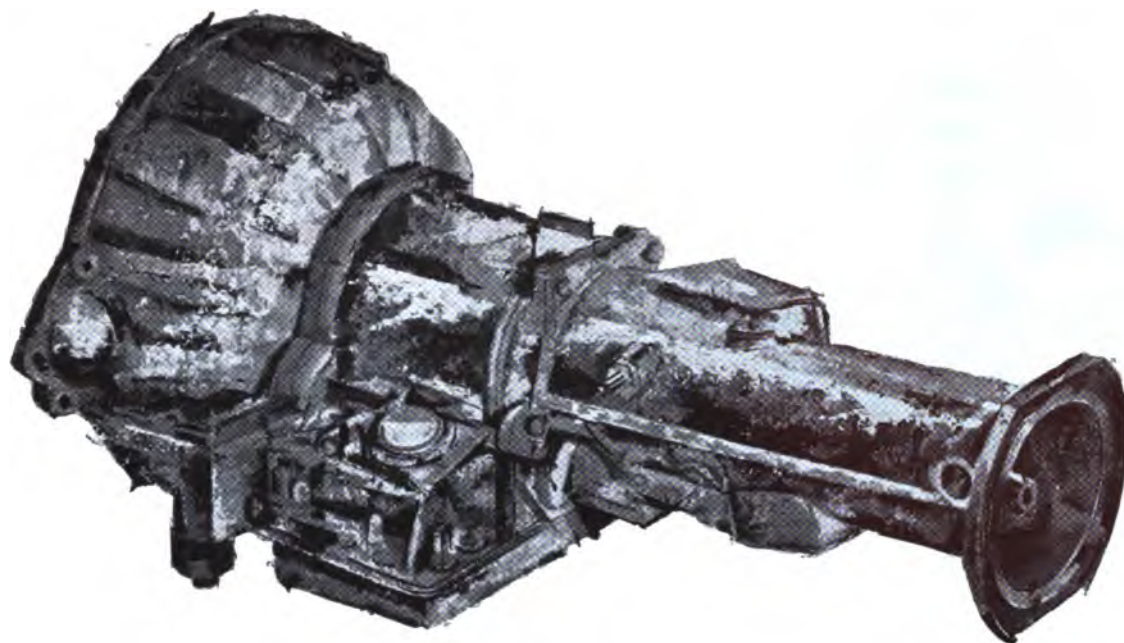
△—Figure given for 4 cyl. 6 cyl. is 60

△—Figure given for the Catalina. Star Chief figure is none

△—Invicta figure given. Electra is 8.00x15

△—4.10 optional

Passenger car service data and specifications appeared in November MOTOR and will be listed again in January



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New Products

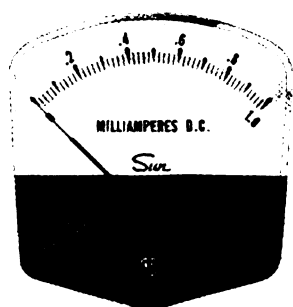
...TO USE ... TO SELL

Wayne Lift



The Wayne Pump Co., Div. of Symington Wayne Corp., Salisbury, Md., has added a two-post universal frame lift, Model E-F-77, which is said to permit access to all underbody parts of all automobiles. This lift has no center bolster and is equipped with adjustable pads and arms. The minimum rail length of this model is 60 in., the maximum 88 in. Cylinder diameter is 7½ in. and stroke is 70 in. The lift is designed for full hydraulic operation and has a capacity of 8,000 lb.

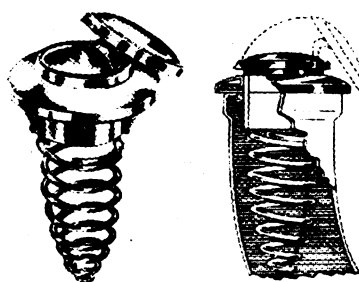
Sun Meters



Sun Electric Corp., Harlem and Avondale Aves., Chicago 31, Ill., has developed a series of new test

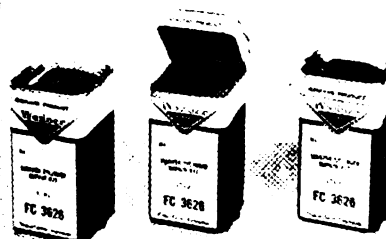
meters called the Gem Line. According to the maker, the instruments are built compactly using phenolic cases and high-temperature acrylic covers. The meter movement is made shock-resistant by means of four rubber shock mounts and spring-backed jewels.

Badger Gas Cap



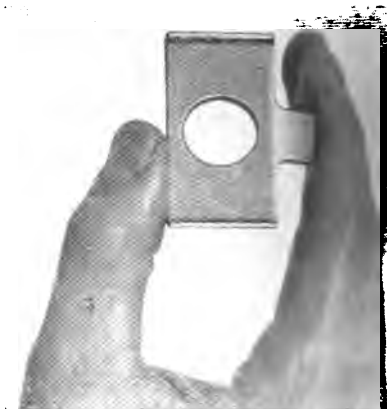
Badger Manufacturing Corp., 1501 Polk St., Chicago 7, Ill., has developed a new self-locking type gas cap that is claimed to be theft-proof, leakproof and siphon-proof. According to the manufacturer, the Nokee gas cap is pressed into the filler neck of the gas line and never has to be removed when filling the tank.

Wagner Brake Parts



Wagner Electric Corp., 6400 Plymouth Ave., St. Louis 33, Mo., offers a new package design with a reclosable lid on metal-end cardboard containers. These packages hold wheel and master-cylinder repair kits and parts. The package is opened by pulling a string. Since the lid is hinged on the box, it can be reclosed to protect the unused contents.

Doan Engine Mounts



Doan Manufacturing Co., 1725 London Rd., Cleveland, Ohio, offers a line of installment and assembly kits for engine mounts. The maker says that all the necessary parts for complete installation are contained in each kit, including the small metal fittings.

Grey-Rock Brake Bleeder



Grey-Rock Div., Raybestos-Manhattan Inc., Manheim, Pa., is now offering a 1 gal. capacity brake bleeder with an automatic air-pressure safety valve. Included with the bleeder are master cylinder adapters for General Motors, Ford and Chrysler cars. The manufacturer says the unit is light, sturdily constructed and requires little storage space. [CONTINUED ON PAGE 82]

For Extra Headlamp Profits:

Check for Broken Lenses, Burnouts



While cleaning headlights is a perfect time to check for cracked and broken lenses. A quick look can add extra headlamp profit to your regular gas and oil sales. At the same time have the driver switch on his lights to spot burnouts. Always replace burnouts in pairs, because when one headlamp goes, chances are its mate has just about had it, too.

Insure these extra profits with Tung-Sol Dual Vision-Aid Headlamps — initial equipment choice of leading car manufacturers. Dual Vision-Aid Headlamps provide

the kind of illumination your customers should have sharper, more accurate low beams directed down the right side of the road, *away* from oncoming traffic . . . distance-devouring high beams that provide greater visibility and safety on the open highway . . . and long reliable service.

Insure your service work and your profits. Tell your supplier to make 'em Dual Vision-Aid Headlamps. Automotive Products Division, Tung-Sol Electric Inc., Newark 4, New Jersey.



HEADLAMPS • MINIATURE LAMPS • FLASHER

MOTOR, December 1961



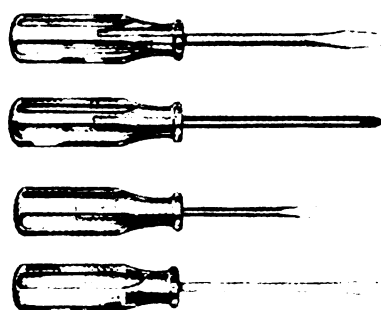
continued from page 80

Bear Alignment Kit



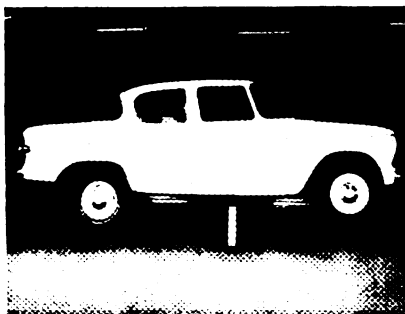
Bear Manufacturing Co., 2016 Fifth Ave., Rock Island, Ill., is offering the Check-O-Matic System and No. 27 Universal Gauge in a carrying case. The kit is known as the 27 AC Alinement Gauge Set. The Check-O-Matic is a series of templates which can be used to check and correct alignment angles. The company says this kit will provide protection in storage and convenient transportation to the job.

Armstrong Screwdrivers



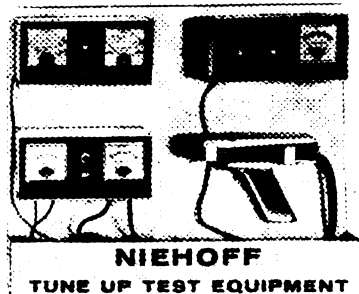
A line of screwdrivers has been introduced by Armstrong Brothers Tool Co., 5200 W. Armstrong Ave., Chicago 46, Ill., which consists of four types: Square blade, regular round blade, Phillips and cabinet style. All types are available in a variety of sizes. The manufacturer reports the steel blades are chrome-plated alloys which have been tempered for hardness and the blade tips are precision ground.

Rotary Lift



The Rotary Tire-O-Matic Mark III Lift is offered by Rotary Lift Div., Dover Corp., 1054 Kansas St., Memphis, Tenn. The maker says this new product has improved pickup pads, greater adjustability in reaching difficult lifting points and increased pick-up range. The lift can operate on a regular compressed air supply and can be used for tire and brake work.

Ignition Testing Equipment



C. E. Niehoff and Co., 4925 W. Lawrence Ave., Chicago 30, Ill., has announced an assortment of basic tune-up equipment called the Tune-A-Matic NE-100. This unit contains a T-40 regulator tester; T-44 tach and dwell; T-45 ignition efficiency tester; T-34 power timing light and metal storage rack. Within the rack there is a trough shelf which holds tester wires and clips.

Binks Paint Filter



Binks Manufacturing Co., 3140 Carroll Ave., Chicago 12, Ill., announces a new in-line paint filter for use with airless spray-painting

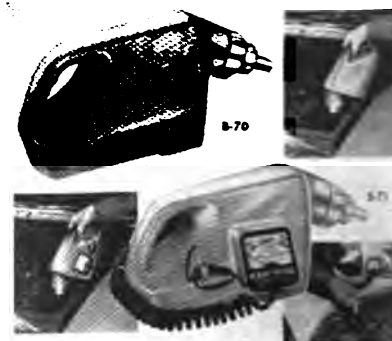
units. Called the Model 41-1415, it has an anti-clogging principle and large filtering area that is said to provide from 8 to 16 hours spraying time in capacities up to 32 oz. per minute before cleaning is required. The maker says that with this filter no fluid can cake up the filter element and later flake away to plug the spray gun nozzle.

Synflex Coiled Hose

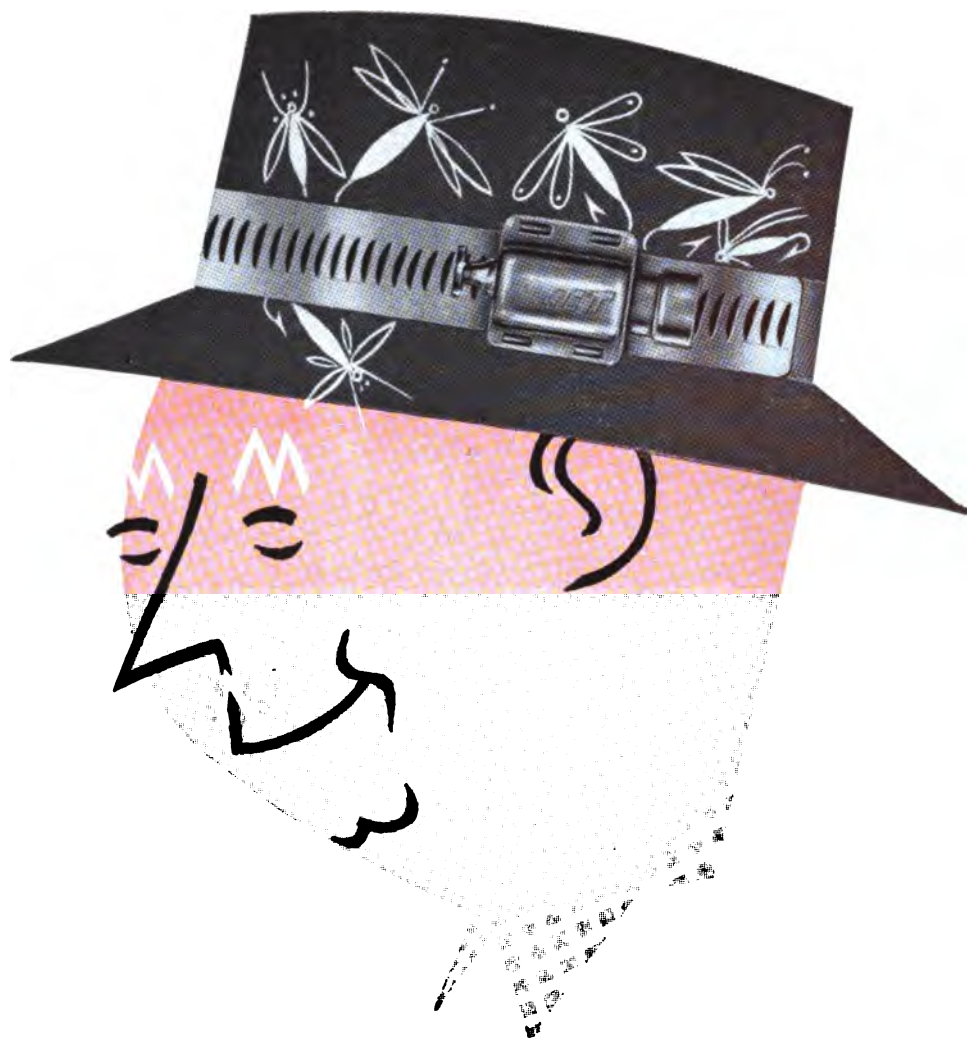


Synflex Products Div., Samuel Moore and Co., Mantua, Ohio, offers a new self-storing air and water hose. These lines are helically coiled, extend like a telephone cord and retract into a storing position. The company says that this type hose can be used in a service station for water for car radiators and for car washing. It also can be used for air for tires and all air-driven tools.

Ken-Tool Battery Filler



Ken-Tool Manufacturing Co., Akron 5, Ohio, announces an automatic self-leveling battery filler and tester. The B-70 fills batteries to the correct level and then automatically shuts off. The B-71 combines an automatic filler and a battery tester into a single unit. This model is also supplied with an extra wire and clip which can be used for other electrical work. Both models are made of styrene and polyethylene and have a capacity of 2 1/4 qt. [CONTINUED ON PAGE 84]



Plenty of sales lures



AERO-SEAL JET® worm drive hose clamps

Whether you sell hose clamps, or whether you use them yourself, you'll find plenty of sales appeal in AERO-SEAL Jets. Compared with any other worm drive clamp, AERO-SEALS offer advantages in material, workmanship, and design. The patented JET feature permits almost instantaneous installation, yet the clamps can't work loose or be forced apart. The patented band slots are shaped and angled to prevent binding. A patented interlock of saddle and band is more secure than spot welding. No burrs or sharp edges, because AERO-SEALS are finished to aviation standards. Bands and saddles are 302-18-8 stainless steel. All stainless also available.

AERO-SEALS come in diameters from 7/16" to 15 feet to solve a multitude of fastening requirements. Don't accept less. Specify AERO-SEALS.

BREEZE CORPORATIONS, INC.



700 Liberty Avenue, Union, New Jersey
Cable Address: Breeze, Union, N. J.





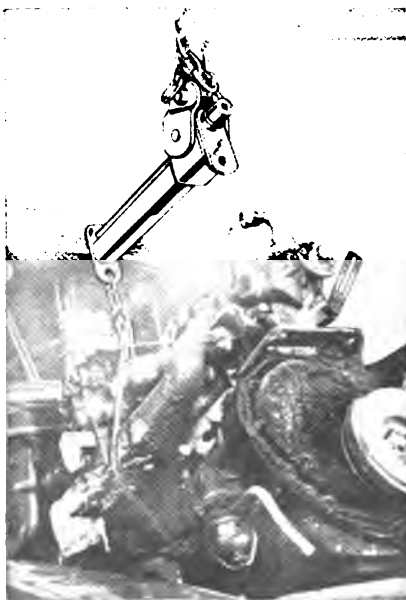
continued from page 82

United Dispenser Pump



A newly designed 1 gal. brake fluid dispenser pump has been announced by United Parts Div., Echlin Manufacturing Co., 1250 West Van Buren St., Chicago 7, Ill. The maker claims that the United BF-75 is designed to fit all standard 1 gal. cans, is a hydraulic, self-contained piston unit that eliminates air, dirt, oil and water from the brake system during filling and does not require air pressure for its operation.

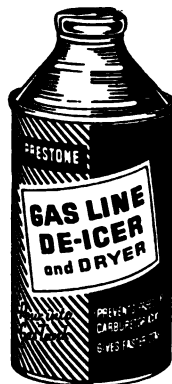
Ideal Tilt-A-Bar



A new engine-positioning tool named *Tilt-A-Bar* has been intro-

duced by the Ideal Manufacturing Co., Oskaloosa, Ia. This tool aids in removing or fitting an automobile engine. The company says this tool makes engine installation a one-man operation and eliminates shoving and jamming the engine with crowbars. A 1/2 in. ratchet or impact wrench fits into the tool end for lowering and raising the engine.

Prestone Fuel Additive



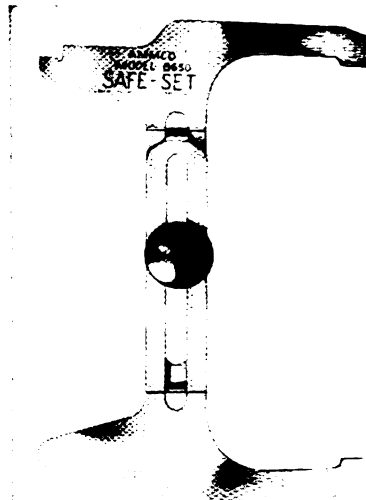
Union Carbide Consumer Products Co., Div. of Union Carbide Corp., 270 Park Ave., New York 17, N. Y., has introduced Prestone gas line de-icer and dryer. The company says that this formula will prevent fuel line freeze-up, carburetor icing and help keep fuel systems clean. It is also recommended for use in power lawn mowers and outboard motors. It is available in 12 oz., 5 gal. and 54 gal. containers.

Oakite Floor Cleaner



Oakite Products Co., Inc., 140 B Rector St., New York 6, N. Y., offers a concrete floor cleaning compound called Oakite 125. The company says that this powder is highly alkaline and is mixed with water in concentrations from 2 to 8 oz. per gallon. It is said to be effective in removing skid marks, old grease and dirt from concrete floors and loading ramps.

Ammco Brake Gauge



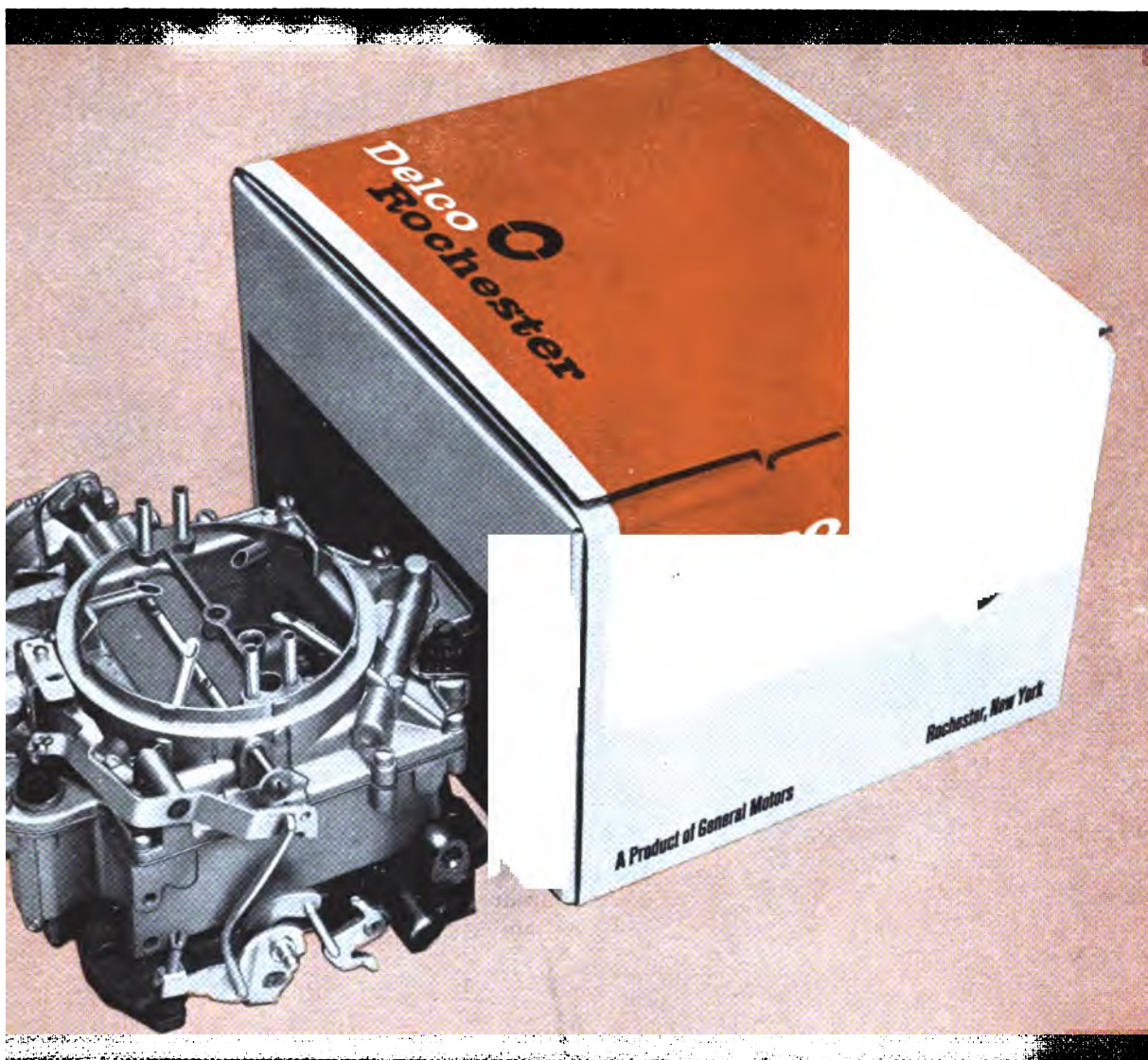
Ammco Tools Inc., 2100 Commonwealth Ave., N. Chicago, Ill., offers Model 8650 brake shoe adjustment gauge which, it is reported, permits the adjusting of all Bendix fixed-anchor brakes before drums and wheels are installed. The new tool, made of cadmium steel, will give correct shoe-to-drum clearance before drums are installed, and is particularly useful on the Bendix self-adjusting brake, the manufacturer says.

R-M Pulley Puller



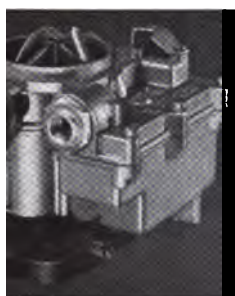
Rinck-McIlwaine, Inc., 16 Hudson St., New York 13, N. Y., is offering a new generator and alternator pulley puller for "pressed on" pulleys. This tool contains a pair of side screws for holding the jaws firmly in position as pressure is applied on the pulley shaft.

[CONTINUED ON PAGE 88]



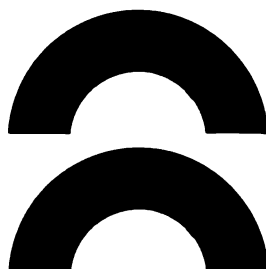
INSTALL-AND-FORGET-IT RELIABILITY IN A REPLACEMENT CARBURETOR?

Simply say Delco



The Delco-Rochester replacement carburetor is designed to satisfy hard-to-please customers. It matches the original equipment carburetor for reliability because both come off the same assembly line. And reliability is just the beginning. ■ Every Delco-Rochester carburetor is calibrated for peak economy and performance before it leaves the factory. Each sale gives a triple payoff: a low price to offer owners, more profit, plus repeat business from satisfied customers. ■ A reliable replacement carburetor is only one of the high-volume items available when you simply say Delco. For extra profits, stock the *complete* line of **Delco-Rochester** service and replacement parts. They're distributed nationally through **United Delco**.

ROCHESTER PRODUCTS, Division of General Motors



Prices on 1962 Passenger Cars

FACTORY DELIVERED PRICES AND BODY STYLES

Body, Make and Model	Wheelbase	Factory Delivered Price	Power Brakes	Power Steering	Cheapest Radio	Cheapest Heater	Air Conditioning	Automatic Transmission
BUICK								
Special								
Club Coupe	112	2301	42†	86	65	Std	351	189
Sedan 4d	112	2358	42	86	65	Std	351	189
Convertible	112	2587	42	86	65	Std	351	189
Station Wagon 6p	112	2655	42	86	65	Std	351	189
Station Wagon 9p	112	2736	42	86	65	Std	351	189
Special Deluxe								
Sedan 4d	112	2593	43	86	65	Std	351	189
Convertible	112	2879	43	86	65	Std	351	189
Station Wagon 6p	112	2890	43	86	65	Std	351	189
Skylark								
Hardtop 2d	112	2787	43	86	65	Std	351	189
LeSabre								
Club Coupe	123	3091	43	107	90	Std	430	Std
Sedan 4d	123	3227	43	107	90	Std	430	Std
Hardtop 2d	123	3293	43	107	90	Std	430	Std
Hardtop 4d	123	3369	43	107	90	Std	430	Std
Invicta								
Hardtop 2d	123	3733	43	107	90	Std	430	Std
Hardtop 4d	123	3667	43	107	90	Std	430	Std
Convertible	123	3617	43	107	90	Std	430	Std
Station Wagon 6p	123	3836*	43	107	90	Std	430	Std
Station Wagon 9p	123	3917*	43	107	90	Std	430	Std
Electra								
Sedan 4d	126	4051	Std	Std	90	Std	430	Std
Hardtop 2d	126	4062	Std	Std	90	Std	430	Std
Hardtop 4d	126	4186†	Std	Std	90	Std	430	Std
Convertible	126	4366	Std	Std	90	Std	430	Std
CADILLAC								
Series 62								
Hardtop 2d	129½	5025	Std	Std	164	Std	473	Std
Hardtop 4d	129½	5213	Std	Std	164	Std	473	Std
Convertible	129½	5588	Std	Std	164	Std	473	Std
Coupe de Ville								
Hardtop 2d	129½	5385	Std	Std	164	Std	473	Std
Sedan de Ville								
Sedan 4d	129½	5631	Std	Std	164	Std	473	Std
Sixty Special								
Sedan 4d	129½	6366	Std	Std	164	Std	473	Std
Eldorado Biarritz								
Convertible	129½	6610	Std	Std	164	Std	473	Std
Series 75								
Sedan 9p	149½	9722	Std	Std	246†	Std	623‡	Std
Limousine	149½	9937	Std	Std	246†	Std	623‡	Std
CHEVROLET								
Corvair								
Club Coupe 500	108	1992	No	No	56	Std	349	156
Club Coupe 700	108	2057	No	No	56	Std	349	156
Sedan 4d 700	108	2111	No	No	56	Std	349	156
Station Wagon 700	108	2107	No	No	56	Std	349	156
Club Coupe Monza	108	2273	No	No	56	Std	349	156
Sedan 4d Monza	108	2273	No	No	56	Std	349	156
Station Wagon Monza	108	2569	No	No	56	Std	349	156
Chevy II								
Club Coupe 100 4 cyl. A	110	2003	43	75	56	Std	317	167
Sedan 4d 100	110	2041	43	75	56	Std	317	167
Station Wagon 100	110	2339	43	75	56	Std	317	167
Club Coupe 300 4 cyl. A	110	2084	43	75	56	Std	317	167
Sedan 4d 300	110	2122	43	75	56	Std	317	167
Station Wagon 300 (9p only)	110	2517	43	75	56	Std	317	167
Hardtop 2d 400 6 cyl.	110	2264	43	75	56	Std	317	167
Convertible 400	110	2475	43	75	56	Std	317	167
Station Wagon 400	110	2497	43	75	56	Std	317	167
Bucyrue 6 cyl.								
Club Coupe 2d	119	2324	43	75	56	Std	363	199*
Sedan 4d	119	2378	43	75	56	Std	363	199
Station Wagon	119	2725	43	75	56	Std	363	199
Bel Air 6 cyl.								
Club Coupe 2d	119	2456	43	75	56	Std	363	199
Sedan 4d	119	2510	43	75	56	Std	363	199
Hardtop 2d	119	2561	43	75	56	Std	363	199
Station Wagon 6p	119	2819	43	75	56	Std	363	199
Station Wagon 9p	119	2922	43	75	56	Std	363	199
Impala 6 cyl.								
Sedan 4d	119	2662	43	75	56	Std	363	199
Hardtop 2d	119	2669	43	75	56	Std	363	199
Hardtop 4d	119	2734	43	75	56	Std	363	199
Convertible	119	2919	43	75	56	Std	363	199
Station Wagon 6p	119	2961	43	75	56	Std	363	199
Station Wagon 9p	119	3064	43	75	56	Std	363	199
Corvette	102	4038	No	No	137‡	Std	No	199
CHRYSLER								
Newport								
Sedan 4d	122	2964	47	107	92	101	512	
Hardtop 2d	122	3027	47	107	92	101	512	
Hardtop 4d	122	3106	47	107	92	101	512	
Convertible	122	3399	47	107	92	101	512	
Station Wagon 6p	122	3478	47	107	92	101	No	
Station Wagon 9p	122	3586	47	107	92	101	No	
Series 300								
Hardtop 2d	122	3323	47	107	92	101	512	
Hardtop 4d	122	3430	47	107	92	101	512	
Convertible	122	3873	47	107	92	101	512	
New Yorker								
Sedan 4d	126	4125	Std	Std	92	101	512	
Hardtop 4d	126	4223	Std	Std	92	101	512	
Station Wagon 6p	126	4766	Std	Std	92	101	No	
Station Wagon 8p	126	4873	Std	Std	92	101	No	
Series 300H								
Hardtop 2d	122	5015	Std	Std	92	101	512	
Convertible	122	5386	Std	Std	92	101	No	
DODGE								
Lancer 170								
Sedan 2d	106	1951	42	76	58	74	44§	
Sedan 4d	106	2011	42	76	58	74	44§	
Station Wagon 6p	106	2306	42	76	58	74	44§	
Lancer 770								
Sedan 2d	106	2052	42	76	58	74	44§	
Sedan 4d	106	2114	42	76	58	74	44§	
Station Wagon 6p	106	2408	42	76	58	74	44§	
G. T. Series								
Hardtop 2d	106	2257	42	76	58	74	44§	
Dart								
Club Coupe 6 cyl.	116	2241	42	76	58	74	44§	
Sedan 4d 6 cyl.	116	2297	42	76	58	74	44§	
Station Wagon 6p 6 cyl.	116	2644	42	76	58	74	44§	
Club Coupe V-8	116	2346	42	76	58	74	44§	
Sedan 4d V-8	116	2404	42	76	58	74	44§	
Station Wagon 6p V-8	116	2761	42	76	58	74	44§	
Dart 330								
Club Coupe 6 cyl.	116	2375	42	76	58	74	44§	
Hardtop 2d 6 cyl.	116	2463	42	76	58	74	44§	
Sedan 4d 6 cyl.	116	2432	42	76	58	74	44§	
Station Wagon 6p 6 cyl.	116	2739	42	76	58	74	44§	
Club Coupe V-8	116	2482	42	76	58	74	44§	
Hardtop 2d V-8	116	2570	42	76	58	74	44§	
Sedan 4d V-8	116	2540	42	76	58	74	44§	
Station Wagon 6p V-8	116	2848	42	76	58	74	44§	
Station Wagon 9p V-8	116	2949	42	76	58	74	44§	
Dart 440								
Hardtop 2d 6 cyl.	116	2606	42	76	58	74	44§	
Sedan 4d 6 cyl.	116	2584	42	76	58	74	44§	
Hardtop 2d V-8	116	2713	42	76	58	74	44§	
Sedan 4d V-8	116	2691	42	76	58	74	44§	
Hardtop 4d V-8	116	2703	42	76	58	74	44§	
Convertible V-8	116	2945	42	76	58	74	44§	
Station Wagon 6p V-8	116	2989	42	76	58	74	44§	
Station Wagon 9p V-8	116	3092	42	76	58	74	44§	
Polara 500								
Hardtop 2d	116	3019	42	76	58	74	44§	
Hardtop 4d	116	2960	42	76	58	74	44§	
Convertible	116	3268	42	76	58	74	44§	
FORD								
Falcon								
Club Coupe (Std.)	100½	1985	No	No	58	Std	No	
Club Coupe (Deluxe)	100½	2071	No	No	58	Std	No	
Sedan 4d (Std.)	100½	2047	No	No	58	Std	No	
Sedan 4d (Deluxe)	100½	2133	No	No	58	Std	No	
Futura	100½	2232	No	No	58	Std	No	
Station Wagons								
2d (Std.)	109½	2298	No	No	58	Std	No	
2d (Deluxe)	109½	2384	No	No	58	Std	No	
4d (Std.)	109½	2341	No	No	58	Std	No	
4d (Deluxe)	109½	2427	No	No	58	Std	No	
Falcon Squire	109½	2603	No	No	58	Std	No	
Galaxie								
Club Coupe	119	2453	43	81	58	Std	36	
Sedan 4d	119	2507	43	81	58	Std	36	
Club Coupe 500	119	2613	43	81	58	Std	36	
Sedan 4d 500	119	2667	43	81	58	Std	36	
Hardtop 2d 500	119	2674	43	81	58	Std	36	
Hardtop 4d 500	119	2739	43	81	58	Std	36	
Sunliner	119	2924	43	81	58	Std	36	
Hardtop 2d 500XL	119	2999	43	81	58	Std	36	
Convertible 500XL	119	3249	43	81	58	Std	36	
Station Wagons								
Ranch Wagon 4d 6p	119	2733	43	81	58	Std	36	
Sedan 4d 6p	119	2829	43	81	58	Std	36	
Sedan 4d 1p	119	2933	43	81	58	Std	36	
Squire 4d 6p	119	3018	43	81	58	Std	36	
Squire 4d 9p	119	3088	43	81	58	Std	36	

Prices shown on these pages are those which manufacturers would charge for cars if delivered to retail buyers at their main factories. They include federal tax and a delivery charge but no freight, state or local excise taxes, or optional equipment.

NA—Not available.

*—Estate Wagon.

†—Also available—Riviera Sedan—\$4448.

‡—Not available on standard transmissions.

1 seeking.
 .30 for 6 cyl.
 ▲—Add \$109 for 8 cyl. engines.
 ♦—Magicair heater.
 ♦—\$189.60 for 8 cyl. cars, \$212.30 for Cruise-O-Matic.
 3—Cruise-O-Matic transmission.
 9—Includes power antenna—all Imperials.
 ♥—Std. model given—De luxe model add \$135.
 ♦—Holiday sedan \$4118.
 X—Sport Coupe \$2294.

[MORE SPECIFICATIONS PAGE 78]

New Products

...TO USE...TO SELL

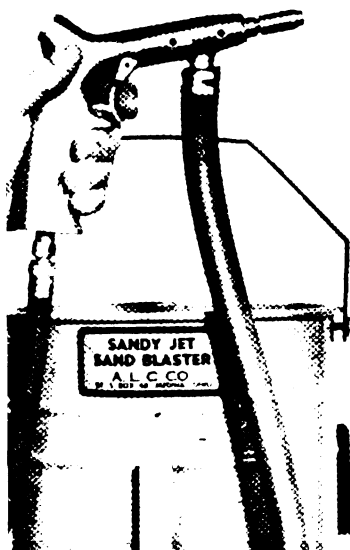
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Allen Tester



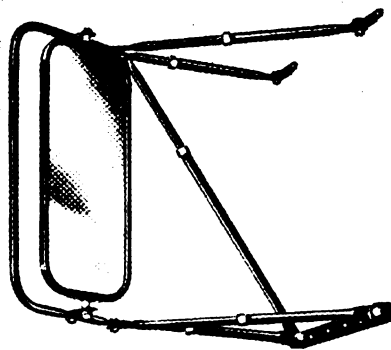
battery-starter tester has been added to the Auto-Equip automotesting equipment line by Al-Electric and Equipment Co., N. Pitcher St., Kalamazoo, Mich. The unit is designed for testing 6 and 12 volt batteries, crankmotors, cables, switches, connections and other voltage tests. It has voltmeter scales of 0-3, 0-15 and ohmmeter scale of 0-500.

ALC Power Gun



A.L.C. Co., Rt. 5, Box 40, Medina, Ohio, announces a new power gun sand blaster model "C". The new heavy-duty power gun is available with interchangeable sizes of nozzle air jets.

K-D Mirrors

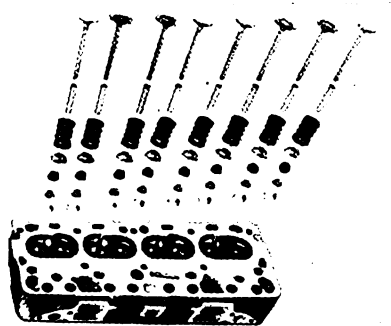


K-D Lamp Co., 1910 Elm St., Cincinnati 10, Ohio, announces a new line of truck mirrors with selection of mirror head. Installation time is said to be reduced to a minimum because of availability of a universal arm and bracket. The company says that the proper combination of bracket, arm and mirror head can be ascertained from the K-D chart, which lists 41 mirror assemblies and a choice of 13 mirror heads.

Heli-Coil Insert Kits

A new kit assortment of stainless steel wire-thread inserts for repairing worn, damaged or stripped threads on small industrial air-cooled engines is made available by Heli-Coil Corp., 4607 Shelter Rock Lane, Danbury, Conn. Materials in the kit reportedly permit on-the-spot repairs.

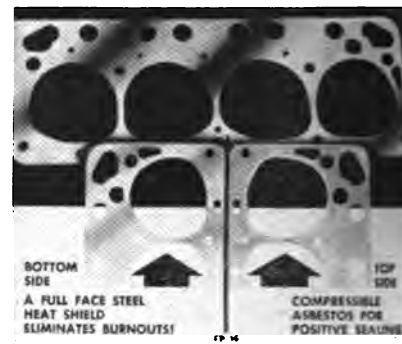
Mustang Cylinder Heads



Mustang Div. of Rebuilders, Inc., Garland, Tex., has announced a new line of exchange cylinder heads for many popular model cars and trucks. The cylinder head comes either stripped, fitted with new valve guides only, or ready to install fully equipped with new valve guides, new standard size valves, new valve springs and new valve stem seals. The company says

that each replacement head is examined for positive detection of possible cracks or flaws and the block and manifold sides of the head are resurfaced. Valve seats are also reground and replaced when necessary.

Fel-Pro Gaskets

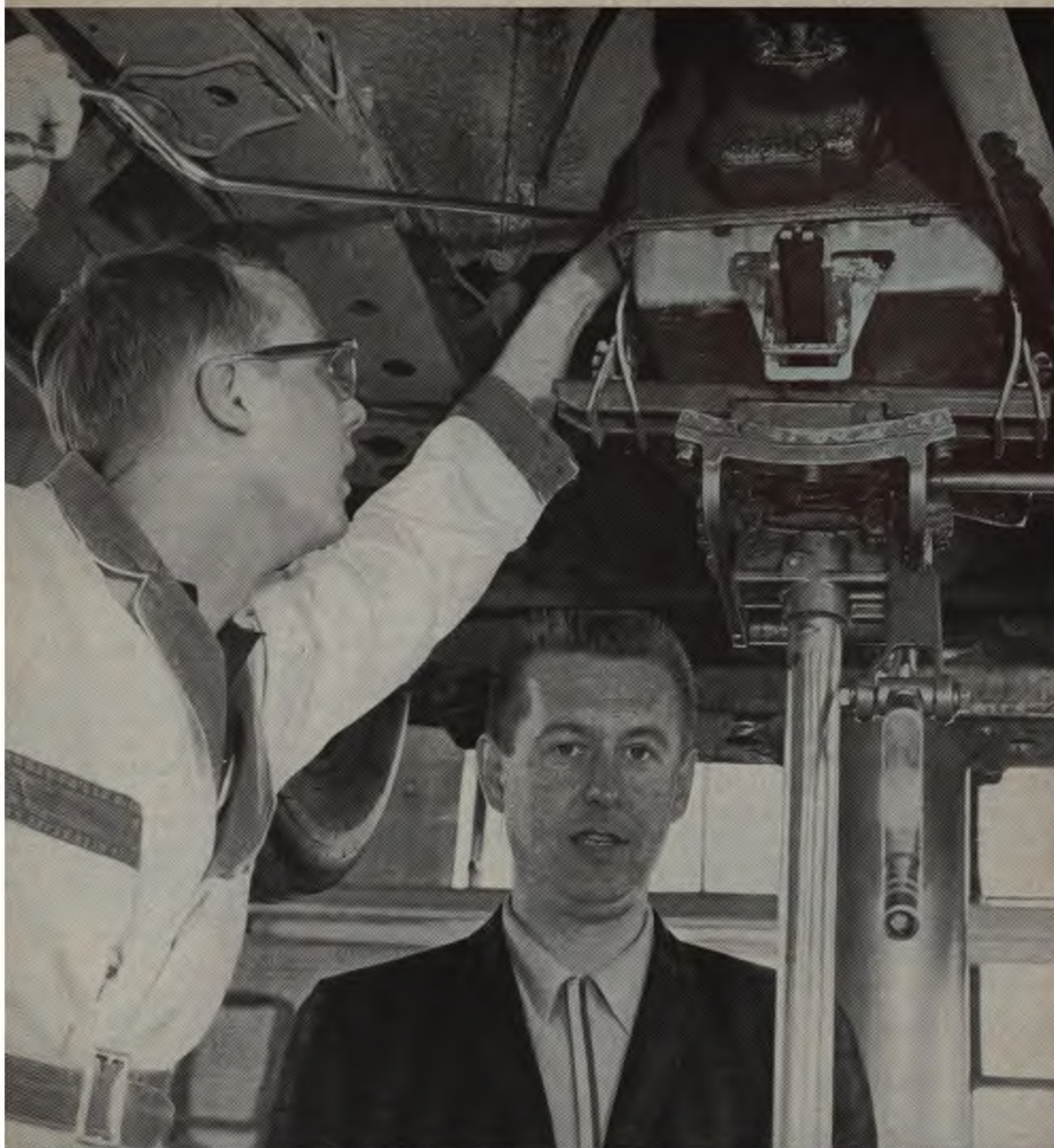


Felt Products Manufacturing Co., 7450 N. McCormick Blvd., Skokie, Ill., has introduced a thin-sized head gasket for all modern high-compression engines. Called the Shim-Bestos head gasket, it is claimed to be thinner than the sandwich type gasket and .010 to .015 thicker than the normal shim type gasket. The manufacturer says these gaskets will give protection against burn-out, dissipate heat more quickly and provide leak-proof sealing.

Eis Cylinder Kit



Eis Automotive Corp., Middletown, Conn., is marketing a wheel cylinder kit for replacements on Chrysler 1956-61 cars. Called the GD-P Kit, it includes a ribbed-type cup with anodized aluminum piston and springs. According to the manufacturer, the cup is an improved seal which has a long life and does not hang up on the groove machined in the cylinder bore. [CONTINUED ON PAGE 90]



by Yellow Pages advertising brings in at least 10 calls a day!" says R. R. Walsten, owner, Automatic Transmission Clinic, Minneapolis, Minn. "Most of the calls I get that haven't been developed through personal references come in through the Yellow Pages. My Yellow Pages ads bring in jobs that range from \$6 to \$300! I just finished a \$50 job the Yellow Pages brought me. The Yellow Pages is doing so well for me that a major part of my advertising appropriation goes into the Minneapolis and St. Paul directories!"



Display this emblem. It builds your business!

Display ad (shown reduced) runs under TRANSMISSIONS—AUTOMOTIVE. Call the Yellow Pages man at your Bell Telephone Business Office to plan your program.

Automatic Transmission Clinic

* SERVICING * ADJUSTING * Exchange Units
* REPAIRING * REBUILDING * of All Types
EASY PAYMENT PLAN—WHOLESALE & RETAIL—PICKUP & DELIVERY
Personalized—Guaranteed Service



FEDRL 3-5527

1032
WASH AV SE
TWO BLOCKS EAST
OF 10TH ST
FOOTBALL STADIUM

1 DAY SERVICE BY APPOINTMENT

New Products

...TO USE...TO SELL

continued from page 88

Hunter Bushing Remover



A new tool introduced by Hunter Engineering Co., Hunter Ave. and Ladue Rd., St. Louis 24, Mo., is said to solve the problem of removing worn bushings from idler arms. The company says the new design Z70-S tool can replace idle arm rubber bushings, regardless of condition, without heating, chiseling or stripping threads. Designed for use with a five-to-eight ton jack, the tool will remove bushings from all makes and models except 1961 Ford and Mercury cars.

Wix Filter



The Wix Corp., Gastonia, N. C., has developed a filtrant and density control system which, it claims,

provides three requirements for engine oil filtration. (1) A visibly clean oil; (2) a maintained high flow rate; (3) extended filtration life cycle.

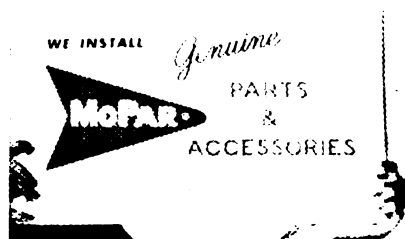
Du Pont Liquid Spray



A liquid spray named Moisture Guard has been added to Du Pont's No. 7 line of automotive specialties, E. I. du Pont de Nemours and Co., Wilmington, Del. The spray is said to cure troubles in starting car engines due to the presence of moisture. The same spray, according to the maker, is suitable for periodic application on chrome to prevent pitting and stop rust on grille, trim and accessories.



MoPar Sign



MoPar Parts and Accessories, Chrysler Motors Corp., P. O. Box 1718, Detroit 31, Mich., has made available a four-color plastic wall sign for use by dealers and trade outlets carrying MoPar parts and accessories. Made of molded plastic, the 18 by 10 in. sign has raised lettering.

National Brake Signs



National Brake Block Corp., 37-17 57 St., Woodside 77, N. Y., has added vinyl display signs to its list of service aids available to distributors of their bonded brake linings. The round signs, 6 in. in diameter, are printed in red and blue on a white background. They are pressure sensitive and said to adhere to window, counter or walls.

Wynn Dispenser

Wynn Oil Co., 1181 W. Fifth St., Azusa, Cal., announces a new plastic rustproof dispenser rack for storing six cans of upper-cylinder additives. When the bottom can is withdrawn another drops down to replace it. It can be installed on a station wall, island, or gas pump.



Chicago Rawhide Tool Box



A metal, wall tool box for front-wheel oil-seal installation tools is now being marketed by Chicago Rawhide Manufacturing Co., 1901 Elston Ave., Chicago, Ill. All

[CONTINUED ON PAGE 92]

get extra performance for your dollars with

HEIN-WERNER HYDRAULIC SERVICE JACKS

new, modern M, 2-ton jack
lifts to 25 inches —

only **\$157⁰⁰**
suggested dealer price



dependable G.G. 4-ton
jack has rapid two
speed pumping action

only **\$229⁵⁰**
suggested dealer price



Hein-Werner 2 and 4-ton Hydraulic Service Jacks offer the economical, trouble free lifting power you need to capitalize on your shop potential to the fullest. Handle everything from passenger cars right up to medium-heavy trucks. Long, sleek chassis are extra sturdy, better balanced and easier to maneuver. Dual pistons with automatic cut-off valve make lifting fast, effortless, and positive. Stop in hydraulic unit prevents damage due to ram overtravel. Large white saddle for quick spotting. Handle pumps full 90° stroke and has three locking positions. Roller bearings in front wheels; ball bearing casters. Positive gear action release valves, *plus* Hein-Werner "Quality First" design and performance. See your H-W Jobber, or write us for full facts.

HEIN-WERNER SAFETY STANDS PROTECT MECHANICS



Instantly adjust to desired working height; lock securely in place automatically. Offer stable, proper load support for *safer* under-vehicle work; relieve jacks for other lifting jobs. Every H-W SAFETY STAND factory tested to support 50% overload. Available in pairs from your H-W Jobber now at these economical suggested prices:

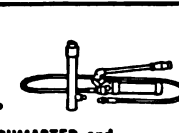
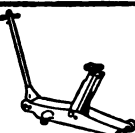
Model CS-211, 2-ton capacity, per pair: \$17.50
Model CS-5.15, 5-ton capacity, per pair: \$24.50
Model CS-7.20, 7-ton capacity, per pair: \$35.00



HEIN-WERNER HYDRAULIC HAND JACKS

Safety-engineered for powerful, dependable, easy lifting. Available in capacities of 1½, 3, 5, 8, 12, 20, 30, 50, and 100-tons — 12-ton models and larger have positioning handles; all jacks factory tested at 1½ times rated capacity to assure maximum safety and performance. Order now from your H-W Jobber.

Hein-Werner
CORPORATION
WABESHA, WISCONSIN



'55' PACER FLOOR JACKS STANDS UNDER AXLE JACKS AIRLIFTS PUSHMASTER and "PUSH & PULL" BIPOD JACKS TRANSMISSION JACKS

continued from page 90

er plates used in oil seal re-l are identified and stored in dup position. An application is included for installation nce. There is also room for g a seal driving tool and a ide mallet.

Ditzler Paint Cabinet



aint cabinet designed to hold or 90 pt., or a combination oth, automotive paints has made available by the Ditzler Div., Pittsburgh Plate Glass 8000 W. Chicago Ave., De-4, Mich. The cabinet is said mply inventory and to in- efficiency and economy of shop operations.

UMS Bearing Cabinet



ited Motors Service, Div. of al Motors, General Motors, Detroit, Mich., offers a cab- with three full-width shelves e a complete stock of auto- bearings and oil seals. It is

designed to stand upright or can be hung on a wall. A pocket application catalog covering all popular automobiles and light trucks from 1946 to 1961 comes with each cabinet.

Champion Aide Booklet



A compact daily workbook for gasoline service stations has been introduced by Champion Spark Plug Co., Toledo, Ohio. Called "Service Aide," the 6½ by 8¾ in. manual contains 256 pages, including a want list and diary pages for daily notes and job schedules, a directory for listing customers and suppliers and a section on tune-up kits and specifications.



ADDITIVES BOOKLET—A booklet called "How Additives Make Your Car Run Better" has just been published. Consisting of 35-pages, it gives information on the use of additives in the crankcase, gas tank, automatic transmission and differential. Also included is information on the use of additives in two-cycle engines, farm equipment and ships. *Popular Mechanics* Service Bureau, 200 E. Ontario St., Chicago, Ill.

REFERENCE WHEEL—A diagnosis reference wheel which provides a quick guide to repair parts needed for Ford transmission overhaul jobs is now available along with catalogs and wall charts for parts

identification. Autolite Div., Ford Motor Co., P.O. Box 2338, Dearborn, Mich.

SPEEDOMETER PARTS CATALOG—This speedometer and parts catalog, No. 461, contains all the up-to-date listings on factory duplicate cables as well as universal cable kits and casing assemblies for all passenger cars and commercial applications. Free. The United Parts Div., Echlin Manufacturing Co., 1250 W. Van Buren St., Chicago 7, Ill.

TOOL BULLETIN—In preparation for the 1962 model year, the company has issued its first special tool bulletin. Listed are four tools to be used on the 1962 Cadillac. For added convenience an order blank is attached to each bulletin. Kent-Moore Organization Inc., 28635 Mound Rd., Warren, Mich.

VERSI-MATIC DRILL BULLETIN—This two-color, four-page bulletin describes the Versi-Matic drill and illustrates the ability of the tool to drill, counterbore, tap and team a work piece from almost any angle. Accessories are also listed. Van Norman Machine Co., 3640 Main St., Springfield 7, Mass.

COLOR CODE WALL CHART—This poster describes the company's labeling system for identification of the four major paint categories—lacquers, enamels, acrylics and specialties. Each type of paint is shown on the chart along with its label code. Martin-Senour, 2500 S. Senour Ave., Chicago, Ill.

TUNE-UP GUIDE—This booklet known as the "Kal-Guide to Modern Tune-ups," tells how to make the essential steps in a good tune-up job easy ones. Free. Kal-Equip Co., 413 Washington St., Otsego, Mich.

Correction

The new literature announcement in the October issue, page 128, on Standard Motor Products, Inc., was in error. This contains 68 pages instead of 80 as reported. The catalog, designated IG-12, does not contain prices or any data on carburetor replacement parts.

Visumatic selling and service... an unbeatable combination!

- STOCKS INDIVIDUALLY TAILORED FOR YOU
- THE PART YOU WANT WHEN YOU NEED IT
- BALANCED INVENTORY—FAST TURNOVER
- EVERY PART A GUARANTEED SALE
- ANNUAL MODERNIZATION
- EVERY DOLLAR YOU INVEST 100% PROTECTED



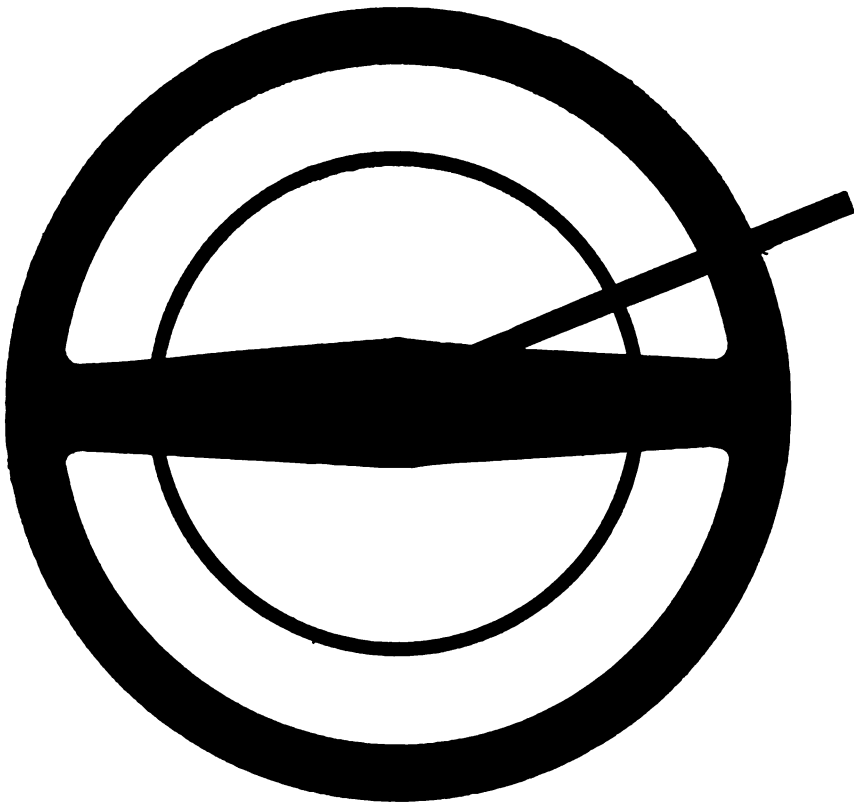
ECHLIN Ignition

UNITED Brake Parts

NAPA
America's Quality

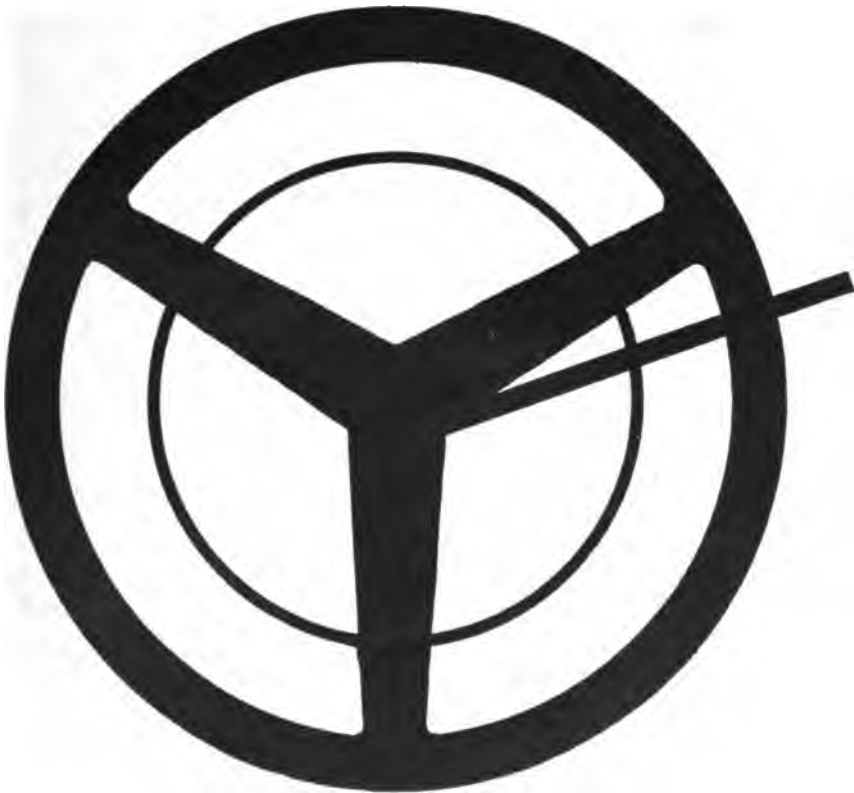
ECHLIN Ignition **UNITED** Brake Parts

THE ECHLIN MANUFACTURING COMPANY • BRANFORD, CONN. • UNITED PARTS DIVISION • CHICAGO, ILL.
ECHLIN-UNITED OF CANADA LTD. • TORONTO



LOOKING FOR THE SECOND CAR MARKET?

ONE OUT OF TWO HOUSE BEAUTIFUL FAMILIES OWN TWO OR MORE



The place to sell the second car is the active, upper income suburban market . . . the House Beautiful market. Proof? More than 48%* of House Beautiful's active-buying families own more than one car. And 25% bought a new car within the last 12 months. 94% own at least one car.

They have the income (average \$15,715), the interest, the incentive to buy. And they're nearly 5 million strong! Want to know more? Ask your House Beautiful man.

House Beautiful

A Hearst Selective Market Magazine
572 Madison Avenue, New York 22, N. Y.

*HOUSE BEAUTIFUL SUBSCRIBER SURVEY 1958

MOTOR, December 1961

NEW ON THE JOB

At Car, Truck Factories

ROBERT ANDERSON and ALAN G. LOOFBOURROW to vice presidents, Chrysler Corp.

WILLIAM R. COLEY to warranty administration manager, Dodge.

DOYLE W. LOTT to manager of advertising, sales promotion and training, Dodge truck.

HERBERT L. MISCH to executive director of engineering, Engineering and Research Staff, Ford Motor Co.

BLAINE COOKE to market research manager, Lincoln-Mercury Div.

M. L. RICKUS to comptroller, Studebaker-Packard's automotive division.

C. B. BUNTING to treasurer, and C. F. PRATT to assistant treasurer, Studebaker-Packard Corp.

JOSEPH N. DEMERS to supervisor of mobile service training units, American Motors Corp.

LEE WARDRIIP to manager, sales promotion for the Automotive Sales Group, Chrysler Corp.

ROY ABERNETHY to executive vice president and general manager, American Motors Corp.

Commercial Credit's Net Dips Slightly

Consolidated net income of Commercial Credit Co. for the third quarter of 1961 amounted to \$7,353,246, compared with \$7,549,489 for the 1960 period. Net income for the first nine months was \$21,424,020, up slightly from \$21,398,433 in the like 1960 period.

Heads Chrysler Styling

Elwood P. Engel has been named vice president and director of styling of Chrysler Corp., succeeding Virgil M. Exner. Engel had been chief stylist of advanced and international styling of Ford Motor Co.

Exner is expected to establish his own creative design firm. He will, however, continue to serve Chrysler as styling consultant to its international operations.

Win Ring Contest

Bill Brisiel, Hazleton Automotive Service, Hazleton, Pa., and Edward Lenhardt of Milnesville, Pa., are the first-prize winners in the second phase of Ramsey Corp.'s "Winning

Ring" contest. They have a choice of either a 1962 Corvair Monza or 1962 Rambler American station wagon. In addition, 200 other prizes were awarded to contestants.

GMAC Net Income Rises

General Motors Acceptance Corp. reported net income of \$13,189,085 during the third quarter of 1961, compared with \$12,824,060 in the 1960 third quarter. The gain was attributed to improved earnings of Motors Insurance Corp., a wholly-owned subsidiary.

What Caused This?

Answer to problem on page 50

It was evident that the valve seats had been cut exceptionally deep when the valve job was done. This, plus the metal removed when the valve was refaced, caused the valve stem to project too far through the cylinder head. As a result, the piston in the hydraulic lifter bottomed and the valve did not seat properly. Hot exhaust gases caused a guttering of the metal at the point of leakage and this soon developed into a crack extending into the water jacket.

IMPORTANT NOTICE TO SUBSCRIBERS

If you are going to move it is necessary that the proper notification be made, at the earliest possible moment, so that you may continue to receive your copies of MOTOR Magazine without interruption.

Such notification should be made to MOTOR Magazine by letter, postcard, or post office form 225, giving the old address, as well as the new, with postal zone number if any. You should also notify your local post office on postal form 22 of your change of address. Both postal forms are obtainable at any post office.

Since considerable time is required to process a change of address you are urged to advise the MOTOR Magazine Subscription Department as soon as you know your new address, preferably five weeks in advance.

MOTOR MAGAZINE
Subscription Dept.
250 West 55th St.
New York 19, N. Y.

New from Ken

BATTERY FILLER

- FLOW AUTOMATICALLY
- SHUT OFF AUTOMATICALLY
- FILL TO CORRECT LEVEL
- BIG 2½-QUART CAPACITY

Ken's New B-70 Automatic Filler quickly fills to correct level and shuts off automatically. No dripping. Ideal for dual batteries. Both valve and stem are made of high-impact styrene polyethylene to withstand use with either water or battery acid. Also features the only automatic for which all parts are replaceable.



Dual-Automatic FILLER and TESTER

Another "first" by Ken, this Dual-Automatic Filler and Tester is a single unit to make battery one-stop operation. Fills batteries to correct level automatically.

Tests either 6 or 12 volt systems with visual trouble indicator. Extra simple clip, makes it easy to locate other car shorts.



Find trouble fast and easy

- Sell more charges
- Sell more batteries
- Sell more service

CALL YOUR JOBBER

Put one of these so to work for you now



Get your pocket-size Ken's all-new, color catalog. Ask your write Ken direct.

Chrysler 300H Shorter, More Powerful



A 380 hp V-8 with two four barrel carburetors powers 1962 300H.

Wheelbase has been cut from 126 to 122 in. Seat belts are standard

MOTOR'S 1961 Index

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Chrysler Corp. 1962 cars	Oct.	54
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THE END. NOW TURN BACK TO PAGE 44

DEATHS

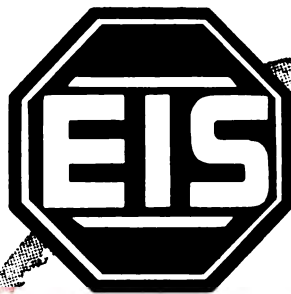
N. FIELD OZBURN, chairman of the board, Parts, Inc., Memphis Tenn., died last month at age 77.

Mr. Ozburn was a former president of Motor and Equipment Wholesalers Assn. and had served in various capacities with other associations in the automotive trade.

He is survived by his wife.

FOR A BETTER AND LONGER-LASTING SEAL ON ALL CHRYSLER WHEEL CYLINDERS* SINCE 1956..

it's the
NEW..
exclusive



PISTON with the patented RIBBED CUP

Here's the perfect answer to wheel cylinder leaks on Chrysler Products Cars* . . . the NEW and exclusive-with-EIS leak-proof PISTON and patented RIBBED CUP combination! The piston is anodized aluminum . . . the ribbed cup (moulded of HRC†) is the proven performer that has been successfully used in millions of Chrysler Products Installations since 1941!

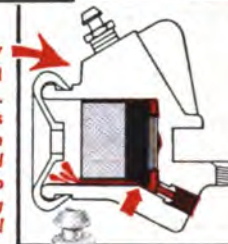
Sound EIS engineering has gone into this piston-cup combination. The flexible ribs on the cup . . . an EIS patent . . . provide the proper pressure at the point of seal . . . insure smooth piston movement all the way! That's what makes for a leakproof, longer-lasting seal . . . that's why you should use these new EIS Pistons in your next Chrysler Products wheel cylinder repair job!

EIS combination leak-proof Pistons with Ribbed Cups are incorporated in all EIS Wheel Cylinders designed for replacement on Chrysler Products. They are also available in NEW GD-P Repair Kits containing 2 (1-1/8") Pistons, 2 Cups, 2 Boots and Springs.



WHEN EIS INSTALLATION IS MADE . . . point-of-seal is intact even though piston assembly pushed all the way into cylinder

WHEN ORDINARY INSTALLATION IS MADE . . . point-of-seal is broken when piston and cup are pushed all the way into cylinder, causing leaks and failure!



FOR CHRYSLER PRODUCTS CARS 1946 through 1955 . . .

Use the EIS CA-P Wheel Cylinder Repair Kit. Contains 2 (1-1/8") Anodized Aluminum Pistons with Flexible Ribbed HRC† Cups plus 2 Boots.



SPECIFICALLY DESIGNED FOR REPLACEMENT ON

CHRYSLER	1956-62
DESOTO	1956-61
DODGE	1957-61
IMPERIAL	1956-62
PLYMOUTH	1957-61

†HEAT-RESISTANT COMPOUND



MASTER CYLINDER KITS • WHEEL CYLINDER KITS • MASTER CYLINDERS • WHEEL CYLINDERS
POWER BRAKE KITS • POWER BRAKE PARTS • HOSES • SWITCHES • BRAKE FLUIDS • BRAKE BLEEDERS
BRAKE CABLES • HOLD-DOWN PARTS • POWER BRAKE TESTERS • BRAKE CUPS • TOOLS
HYDRAULIC CLUTCH REPAIR KITS AND CYLINDERS • CYLINDERS AND KITS FOR IMPORTED CARS

DESIGN
ENGINEER
MANUFACTURER
all under one

Ask your EIS Distributor or write for catalogs

EIS AUTOMOTIVE CORP., Middletown, Conn.

don't divide your income with
lost time



protect your profits with a
Lathem
PAYROLL and JOB TIME RECORDER

Consider the ways that time on the job can be wasted . . . can run up even higher your cost of doing business. For instance . . . too much delay between jobs . . . too much time on each job . . . excessive tardiness.

To correct these abuses, you need to know where they occur. And that's where a Lathem Time Recorder can do a job for you. It gives you an accurate record of the time each job is started and completed . . . when each employee arrives and leaves work. Every loss of time stands out . . . ready for you to eliminate for a better profit picture.

Mail the coupon today for complete information, prices and sample payroll and job cards.

LATHEM TIME RECORDER CO.

82 Third Street, N. W., Atlanta, Georgia

Gentlemen: Without obligation, please send me complete information, including prices, about the Lathem Payroll and Job Time Recorder.

NAME _____

COMPANY _____

STREET _____

CITY _____ ZONE _____ STATE _____

U.S. Vehicle Sales

January-September 1961-60

As counted by R. L. Polk and Co.

Passenger Cars

	Position		Total Retail Sales for First 9 Months		Per Cent of Grand Total of Retail Sales	
	1961	1960	1961	1960	1961	1960
GENERAL MOTORS			1,915,085	2,143,568	48.7	47.2
Chevrolet	1	1	1,131,994	1,295,038	28.8	28.5
Pontiac	4	5	259,051	299,079	6.6	6.6
Oldsmobile	6	7	223,261	253,734	5.7	5.6
Buick	7	8	200,137	187,866	5.1	4.1
Cadillac	10	10	100,642	107,851	2.5	2.4
FORD			1,224,131	1,272,353	31.2	28.0
Ford	2	2	978,011	1,040,092	24.9	22.9
Comet	9	11	138,529	102,930	3.6	2.3
Mercury	11	9	86,839	113,492	2.2	2.5
Lincoln	14	14	20,752	15,839	0.5	0.3
CHRYSLER			463,785	690,227	11.8	15.2
Plymouth	5	3	224,629	342,806	5.7	7.5
Dodge	8	6	167,222	278,620	4.3	6.1
Chrysler	12	13	64,502	57,444	1.6	1.3
Imperial	15	15	7,432	11,357	0.2	0.3
AMERICAN MOTORS			270,367	327,421	6.9	7.2
Rambler	3	4	270,367	327,421	6.9	7.2
STUDEBAKER	13	12	49,449	84,402	1.3	1.9
Miscellaneous			5,635	26,630	0.1	0.5
TOTAL			3,928,452	4,544,601		

Trucks

	Total Retail Sales for First 9 Months		Per Cent of Grand Total of Retail Sales	
	1961	1960	1961	1960
CHEVROLET	223,706	242,326	33.1	33.3
FORD	216,286	220,322	32.0	30.2
INT. HARVESTER	83,989	86,270	12.4	11.8
GMC	50,587	63,349	7.5	8.7
DODGE	30,406	32,722	4.5	4.5
WILLYS	21,214	21,795	3.2	3.0
Truck	12,624	14,063	1.9	1.9
Jeep	8,590	7,732	1.3	1.1
WHITE	9,911	11,541	1.5	1.6
MACK	6,623	8,708	1.0	1.2
STUDEBAKER	3,985	4,200	0.6	0.6
DIAMOND T	1,373	2,041	0.2	0.3
BROCKWAY	749	840	0.1	0.1
Miscellaneous	26,237	34,499	3.9	4.7
TOTAL	675,066	728,613		

Oklahoma Dealers Elect Horton

The Oklahoma Automobile Dealers Assn., meeting in Tulsa last month, elected W. G. Horton, Oklahoma City, president. R. W. White, Tulsa, was named first vice president, James Clark, Oklahoma City, secretary-treasurer, and Roy Tant was re-elected secretary-manager.

Imported Vehicle Sales

10 Leading Makes

January-September 1961-60

As counted by R. L. Polk and Co.

1961	1960
Volkswagen 134,411	Volkswagen 115,467
Renault 33,712	Renault 54,061
Fiat 9,480	Opel 22,092
Mercedes Benz 9,414	English Ford 20,900
Volvo 9,012	Fiat 17,538
Triumph 8,951	Triumph 14,523
English Ford 7,812	Simca 13,860
Austin Healey 7,234	Austin Healey 13,743
Metropolitan 7,080	M. G. 10,949
M. G. 7,072	Mercedes Benz 10,857
All Others 59,396	All Others 103,278
TOTAL 293,574	TOTAL 397,268

8,000 Seat Belts Sold in Drive

A seat belt campaign conducted during August and the first week of September by the Rock Island, Ill., Safety Council resulted in the sale of 8,000 belts.

The 16 automotive service outlets which tied in with the promotion to make people seat-belt conscious benefited in many ways. Some recorded more than \$1,000 from installation labor and one small station sold and installed 465 belts.

Through the efforts of the local Safety Council and its president Hal Hart, local media contributed editorials, feature stories, television film shots and radio announcements.

Ford's Net Up Sharply

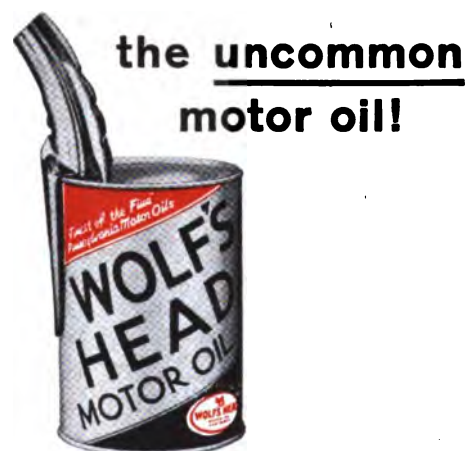
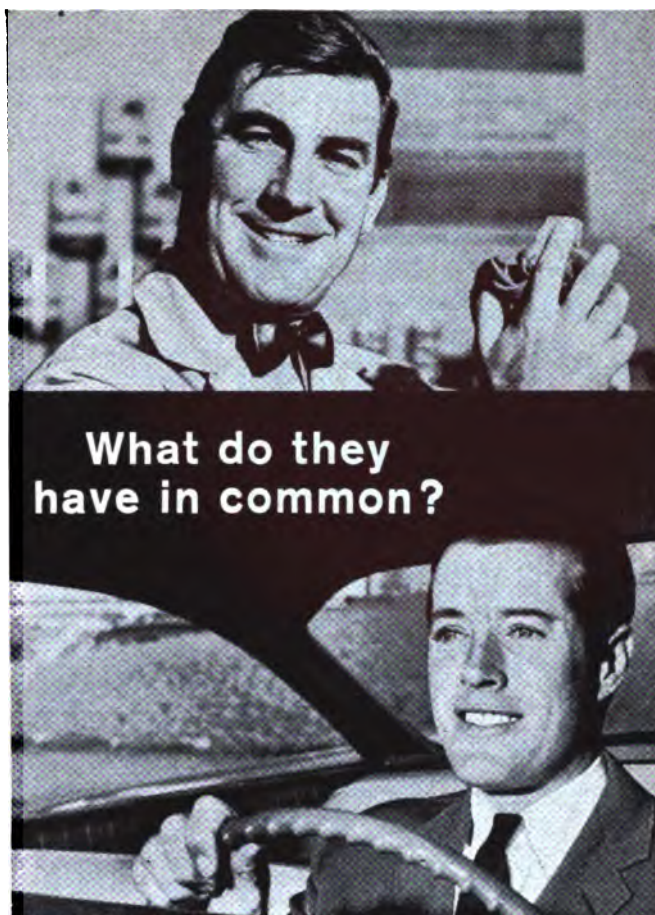
Ford Motor Co.'s consolidated net income for the third quarter of 1961 was \$79,800,000, compared with \$51,400,000 in the like period last year. Sales in the 1961 third quarter were \$1,504,000,000, 12.3 per cent higher than last year.

Can You Name It?



One of the better cars that failed to survive was this model of the mid-1920's. It was powered by a 6 cyl. engine with $3\frac{1}{4}$ in. bore and $5\frac{1}{2}$ in. stroke. The crankshaft, carried in seven main bearings, drove the overhead camshaft through a vertical shaft at the front. Can you identify this \$3,185 automobile? Answer is on page 125.

MOTOR, December 1961



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serving the East, Southeast and Far West
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How to Score 3 Per Cent Net

continued from page 29

operating formula at the start of this article. Here are some of these figures.

Salesmen's compensation paid by the successful dealers did not exceed 25 per cent of the gross profit realized from all cars sold by those salesmen. On new cars, profits were determined from invoice (excluding any hold back); on used cars, the cost figure was the wholesale appraisal value plus the cost of reconditioning. Compensation included all forms: Salary, commission, bonus—however paid.

Incidentally, successful dealers have learned long since that any computation of salesmen's compensation based upon dollar volume or number of units is inadequate in this competitive market.

Make ready, policy service and new car inspection costs differed with varying volume and because accounting practices are not always uniform. But the total of these expense items as revealed by all of the studies made, indicated that this expense finds its level at not more than 2 per cent of the net sales price or 20 per cent of the gross profit—realized from all new cars sold.

Permits Profits

Many high-volume dealers spend substantially less, a few spend more. But, as a limitation formula, the figures stated will permit an over-all profit pattern.

Not reflected in the composite statements which I have been permitted to examine are some other operating guides worth mentioning here.

New car inventory, if efficiently maintained, finds its most economical level at no more than a 30-day supply, excepting only at the period prior to the spring selling season and at the completion of the manufacturer's model-year build-out.

Dealers are prone to forget that it costs about \$2.35 per day, per car, to carry new cars in inventory. As few as 20 extra cars will cost the dealer \$1,400 per month in hidden expenses. A 30-day inventory is best achieved by judicious buying

—particularly as to models, co and equipment.

Used car inventory can be maintained with daily attention at more than a 20-day supply. 30-day-old cars are loss products no matter how a dealer tries to justify their presence in the inventory.

Besides a daily, per-car cost about \$3 for used cars, depreciation (unlike new cars) goes on relentlessly. Proper control eliminates this hidden expense.

Advertising averages belong about 1 per cent of total sales volume, excepting only in large multiple-dealer areas where a minimum of 1½ per cent is permissible.

Bulk for Used Cars

The bulk of local advertising expenditures is usually for used cars about 20 per cent for service and a minimum amount for institutional purposes. The latter would include telephone directory listings, showroom signs and displays. The manufacturer does so fine an advertising job on new cars that dealers can safely limit their local new car advertising to 10 per cent of total advertising budget.

Service-labor gross profit (if all sources: Customer, factory-d and internal combined) will make its proper contribution to net profit if it is less than 10 per cent of all labor sales, after including unapplied time and labor inventory adjustments to the cost of labor sales.

Service department salaries



"Sure, I believed you'd back—just a second till get our figures out of the fi

tinct from the mechanics' ges), including service counsel-, cashier, control tower operator, rters, supervision and service nager, can usually be limited to per cent of total labor sales, inding labor sales in the body and int shops.

Control of these two service ms will help to reveal whether e dealer's physical operation ets these other standards: (a) o less than 1.4 nor more than two lls for each mechanic employed;) one supervisory employe for ch six productive workers; (c) e service counselor for each ten oductive workers; (d) in a flat-te shop, over-all labor sales ould range from 100 to 125 per nt of available mechanic's time;) customer service potential ould be 16 hours annually for ch car registered by the dealer the preceding five years; and) a body shop cannot be oper-ed profitably on volume of less an \$5,000 per month.

Minimum Gross Needed

Parts department gross profit on e surveys studied was slightly ore than 30 per cent of total sales. has long been known that parts ss profit may not be less than per cent, if a successful opera-n is to be maintained.

Parts sales on customer repair lers usually equal or exceed the ount of the labor charges (avge monthly figures, excluding nt shop), and should reflect a ss profit of 37 per cent of all ts sold on repair orders with tomer labor sales.

Parts department personnel, inding manager, assistant, coun-man, clerk, truck driver and any ers, are in line if there is no re than one person for each 500 of monthly parts sales—exding accessories and tires.

Watch Payroll

Parts department payroll is itable if it does not exceed 9 cent of total parts sales—exding accessories and tires; nor eed 28 per cent of parts gross fit; or in the case of smaller ps where the two departments combined, 15 per cent of labor l parts gross profit.

Parts inventory, including acces-sies, is expensively top-heavy

when it exceeds three times the cost of one month's sales, based upon an average of the preceding six months.

Overhead absorption or fixed expense coverage as traditionally defined by the manufacturers, requires that the combined gross profit from all parts and service sales be equal to at least 65 per cent of the fixed and semi-fixed expense. Manufacturers still preach 100 per cent coverage and some dealers strive for it but no one achieves it excepting for an occa-

sional "happenstance" resulting from unusual conditions.

A more realistic approach for the present era of the retail automobile business is to remove all new and used car "fixed" operating expense from the total fixed and semi-fixed expense, and then strive for 100 per cent of the balance as a true overhead absorption goal. Starting with this figure, the objective becomes one of exceeding the 100 per cent figure—and by how much!

[CONTINUED ON PAGE 104]



WORLD'S BEST-LIKED SILVER BEAUTY MODEL 220 BATTERY CHARGER HAS STARTED MILLIONS OF CARS AND TRUCKS IN THE LAST SIXTEEN YEARS

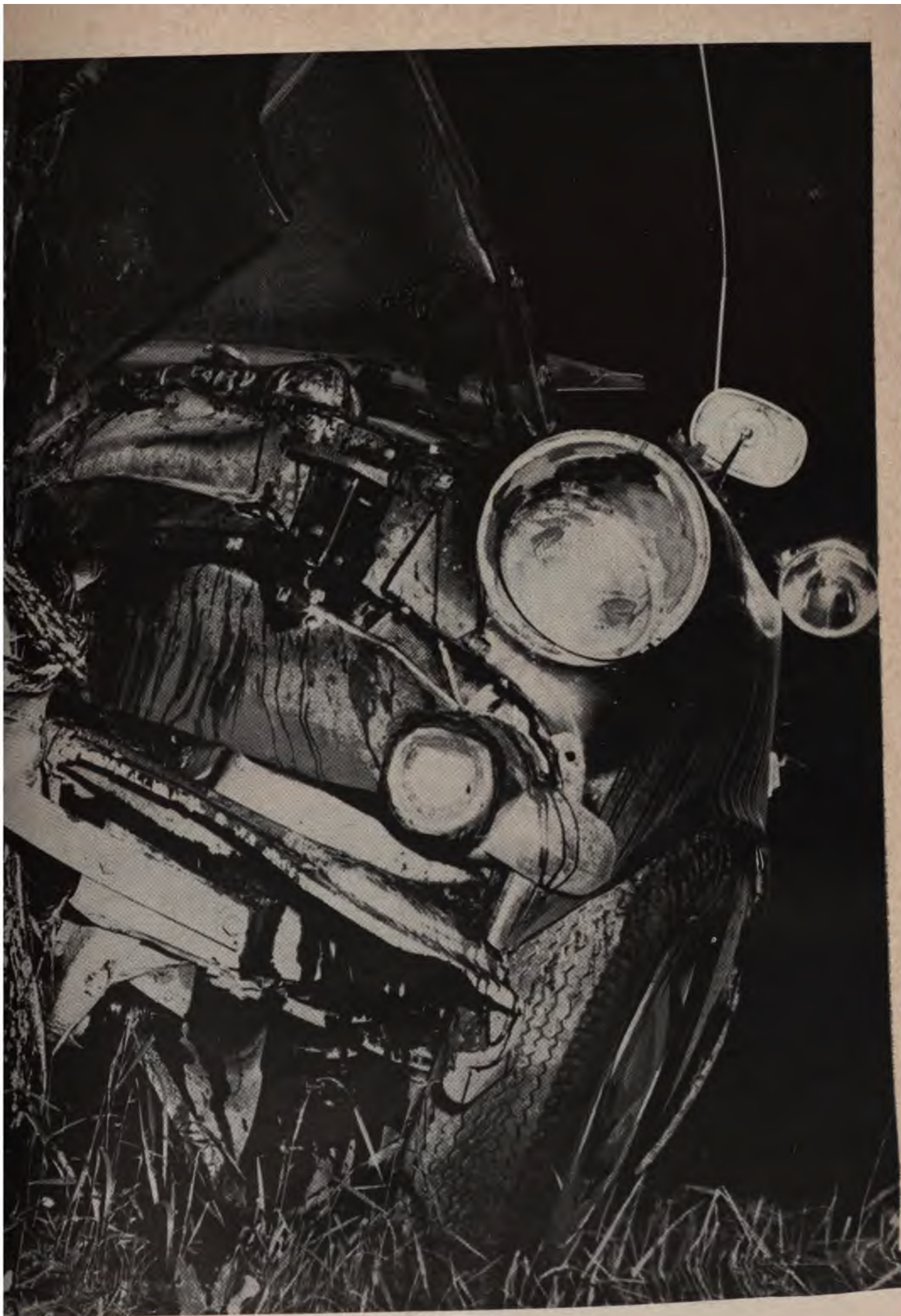
Through several "face liftings" and numerous improvements, the model 220 has continued its popularity for 16 years. Many other Silver Beauty models, since 1919, are still in use every-

where. All are still protected by our famous unconditional guarantee. Always will be. You can count on us to back them up for a long, long time.

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Accounts receivable for parts and service should be controlled at 75 per cent of an average month's volume of these two departments; at more than a full month's average volume, a danger flag should be flying.

The dealer who aims too much below 75 per cent or who attempts to operate only on a cash basis will undoubtedly sacrifice some profitable volume.

Total rent and/or rent equivalents are in line if they do not exceed 19 per cent of the gross profit from the service and parts departments; or conversely should not exceed \$50 per new car delivery—preferably on the sunny side of both of these figures.

Items to Check

Total fixed and semi-fixed expense still needs to be held at not too much more than 8.5 per cent of total sales volumes, if an over-all net profit is to be achieved. If it exceeds this percentage, check these items: Advertising, other salaries and wages, clerical salaries, supplies and miscellaneous expense. Usually the trouble is found within one or more of these categories.

Price class, which too often is ignored, misinterpreted or misunderstood, is nevertheless, important. The dealer whose sales are equal to average price-class percentages will more easily attain and retain formulas outlined herein.

Price class is not an arbitrary figure. It is fixed by the actual national sales of any given make car in relation to the national sales of all other cars in the same price bracket. The figures are average. A volume dealer is invariably higher than average, a poor dealer lower than average, and a steadily-profitable dealer is always at or just above the national average price-class percentage in his own area. (Recent additions to almost all lines in varying price classes may change this yardstick to "percentage of industry," but its purpose will remain the same.)

Aside from these "yardsticks" for measuring and controlling a dealership, some other ideas are worth considering.

To assist in controlling car-sales profit retention, tabulate two items of "variable" or selling expense on a per-new and (separately) per-used car basis. The first will consist of the total of salesmen's salaries, commission and bonus, plus the sales manager's total compensation. The second will consist of make ready, free service and new car inspection expense.

Find Selling Cost

Divide each total by the number of cars delivered to determine the direct selling and servicing expense per car. Then send a memo of the amounts to each executive and department head. If this is done every month (for the preceding month and year-to-date), selling cost will be a known figure, instead of a "guesstimate."

Avoid charging expense items into "other supplies" and "miscellaneous expense," whenever possible. A lot of profit is squandered (and concealed!) in these two accounts. Most of these expense items can be charged to specific accounts where they flash danger signals more readily. For example, such things as coveralls, Blue Cross and anything for the benefit of the workers should be charged to "employee benefits." Salesroom signs and displays should be charged to "advertising." Simply *don't* charge anything to supplies or miscellaneous if it may possibly be charged more directly.

Also, it is advisable to create a new account called "convenience expense" for soap, towels, drinking water, etc. A surprising amount of these items is wasted or disappears. But the dealer isn't aware of it. Their expense is buried in anonymous accounts.

The dealer who would be genuinely realistic about his advertising expenditures might adopt this method: First, determine what proportion of sales he wants to spend for advertising. For example, say \$35 per retail used car for used-car advertising, \$15 per new car for institutional and new-car advertising and two per cent of service and parts volume for service ads.

Amounts Reserved

Now, reserve these amounts each month from actual operations (instead of anticipating them). At the end of the month, the amount so reserved constitutes the next month's budget.

The operating ideas, the formulas, the yardsticks go on and on. Bring them all together and they spell Management—capital "M!"

Most of the money a dealer calls profit is merely money that has not been wasted. Within this article are the guards to avoid waste.

Some of them will be difficult for some dealers to follow—if only because they lack the courage to be forceful. But the dealers who enforce and consistently maintain all of them may well earn a full 3 per cent of their sales volume—even the highly competitive year ahead.

THE END. NOW TURN BACK TO PAGE 101

When to Break the Rules . . . continued from page 36

the animals stirred up. O. K. But I oughta warn you. I'm a man of principle."

"I've got another name for it—bullheadedness."

With that, Wes strode off and Lou drifted over to Adelaide's desk.

"When's Cap expected back?" he asked casually.

"Right after lunch," said Adelaide, without pausing in her typing, "but you don't have to wait."

"That's what I like about Moran Motors," said Lou, "that nice, warm feeling of bein' wanted. First Wes, and now you."

"Did you lose an argument to him, too?"

"I let him win one now and so's to keep his morale up. I don't let Cap get away before him. I'm gonna run down to the diner."

"Wait till I get my camera." "For what?"

"To get a picture of you doing," said Adelaide.

Lou contented himself with a glare and a lusty puff on the pipe.

As things turned out, he didn't have any trouble finding Cap. The moment he set foot in the office room after lunch, Adelaide told him that Cap wanted to see him. He jolted him when he entered the

[CONTINUED ON PAGE 102]

A VEHICLE PUMPING OIL COULD HAVE **FUEL PUMP** TROUBLE



AIRTEX

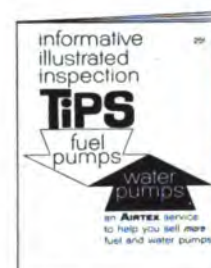


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FUEL PUMPS • WATER PUMPS

When to Break the Rules

continued from page 104

private office to find Wes Moore was already seated beside the desk.

"I was kinda hopin' for a private talk," he said, with a glance at Wes.

"We don't have any secrets here," said Cap. "Sit down."

"As I was saying this morning," said Wes, "I don't see anything wrong with wholesaling some of our used cars. We could put ourselves in a better trading position."

"And as I said this mornin'," said Lou blandly, "half-and-half might be all right in an English pub but it won't work with used cars. We made it a rule away back to retail all our cars—except the junk, of course—and we've stuck to it. The wholesaler expects to make a profit on the stuff he buys. Why shouldn't we make that money?"

Cap, who had been listening with a faint smile playing about his mouth, swung around in his chair to face Wes.

"So you see," he said, "argu-

ments can be mustered for the other side of the question."

"I was only thinking—" began Wes.

"There isn't anything wrong with that," said Cap, "so long as it isn't mere daydreaming. And it is only daydreaming to think that we can lay down strict rules in this business."

"I know dealers who make it a practice never to hire relatives. Yet I've known dealer sons and nephews and even sons-in-law who were doing wonderful jobs."

"If you don't mind my saying so," said Wes, "we were discussing the wholesaling of used cars."

"We can dispose of that question quite easily," said Cap. "We've been handling used cars in a way that would give us a profit. So far, Lou has been able to do it by sticking to retailing. If the time comes when that won't work, we'll do something else."

The look Wes threw at Lou was a little smug.

"If," repeated Cap, "that time ever comes. The important question you've raised here today, Wes, is about whether we should have rules."

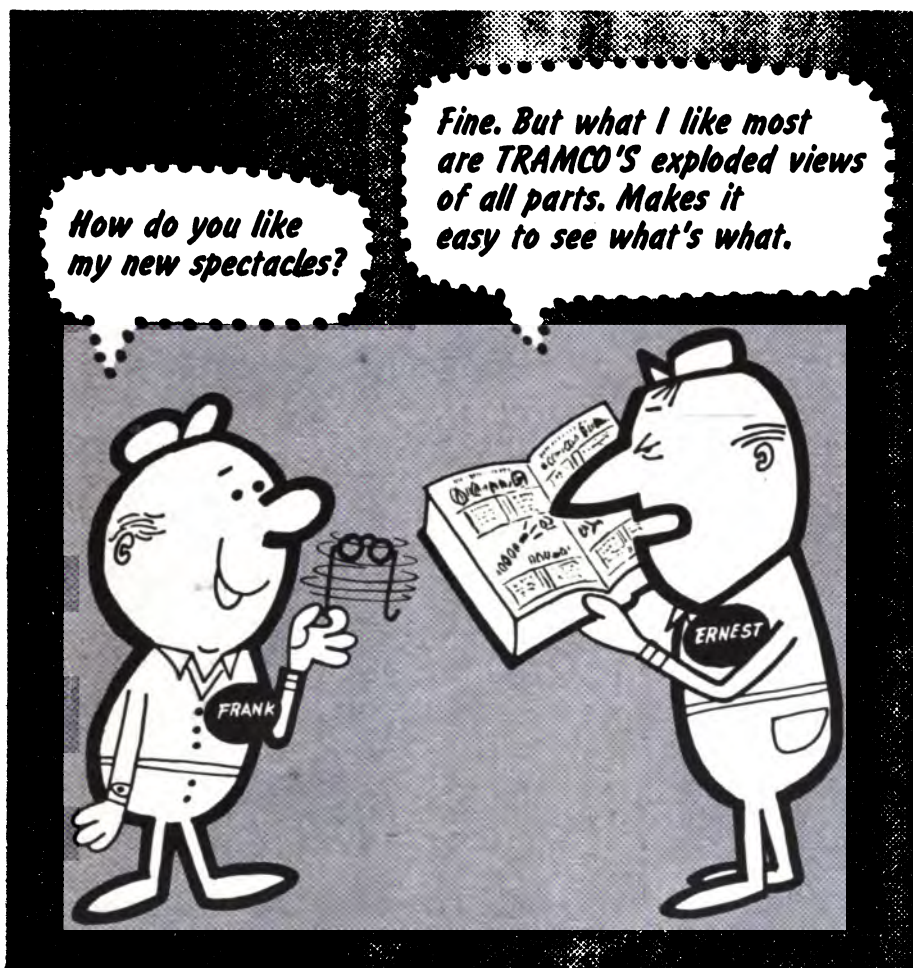
"Rules are made to be broken," said Wes.

"I seem to have heard that somewhere before," said Cap. "I insist, though, that they are to be broken only when something is to be gained by doing so—at least in this dealership. We've got to make sure that breaking the rule is going to do us more good than observing it—both today and in the future."

"You know," said Lou, rolling a cigar between his fingers, "that reminds me of a guy I used to play table tennis with when I was young and didn't have so much beef to lug around. I was always better than he was, but I never could beat him. Every time I took the lead, he'd change the rules."

Cap smiled. "I know about that, too," he said. "Nobody ever knows quite where he stands because every situation is handled according to how the boss feels at the moment. We don't want that here. On the other hand, we don't want to let ourselves get stymied by silly rules."

"It's like refusing to hire a red-



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headed mechanic because the last one you hired cleaned out the parts shelves before he quit. Or refusing to order any more two-door wagons because you got stuck with a few last year.

"All I'm saying is that there is a time to follow a rule and a time to break it. If you make it a rule to follow the rules, you'd better be mighty sure the rules are sound. If you have a policy against granting credit in the shop, you want to make certain you can get all the repair work you need or want before you start scaring off customers who may have flawless credit but too little cash at the moment."

"You just said," objected Wes, "that it isn't smart to change the rules to meet temporary conditions, or words to that effect."

"I did and that's what I'm saying about credit. My rule would be to refuse anybody credit unless I was reasonably sure I could make more money by granting it. I would have a rule against wholesaling cars—as we do have—unless the time came when conditions made it unprofitable to follow the rule.

"In some locations, dealers simply have to wholesale. People in their area don't buy secondhand cars. That wouldn't stop me from retailing a piece if some buyer happened to want it."

"I don't know what you would call it," said Wes, "but I would call that kind of operation playing it by ear."

"Terms," said Cap, "aren't nearly so important as making a profit. Unless the rule infraction seems likely to kick back on you at some future time, I'd say it was justified."

"Then you think," said Lou, "I oughta unload our stock of used cars on some wholesaler?"

"That is for you to decide," said Cap. "Wes says he can sell more new cars when we aren't loaded down with used stuff. Why don't you two get together and decide whether we can make more money by selling a few extra new cars than we can by holding all our used cars for retail?"

"You mean we gotta agree on somethin'?" exclaimed Lou.

"That's how wars start," said Wes.

"These sword-rattling statesmen wouldn't wrangle so long," said Cap, "if they had somebody over them, telling them to agree—or else."

Wes and Lou exchanged glances. "Somehow," said Wes, "I never felt more in the mood for a good compromise."

"Me, too," said Lou.

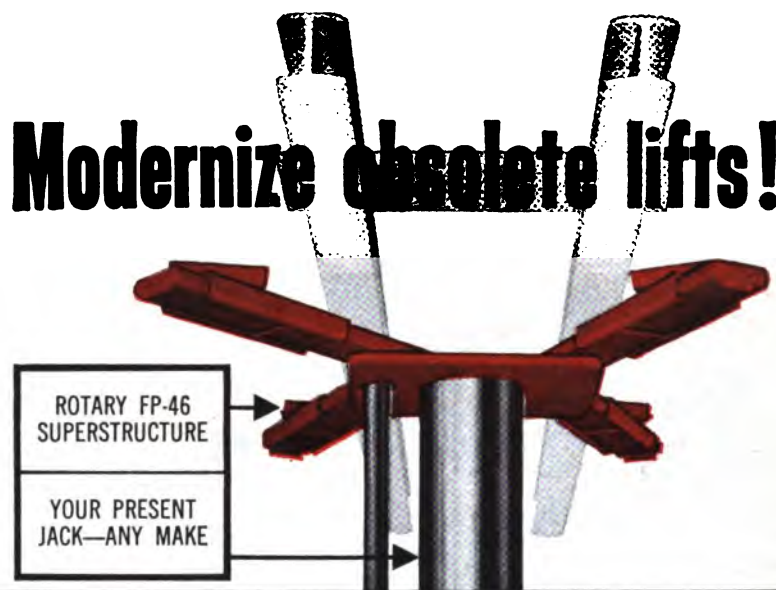
—Edward Ford

Next month—Cap learns the trade-in offer must be exciting.
NOW TURN BACK TO PAGE 37

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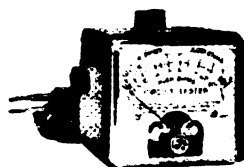
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Chains Reviving to Haunt Dealers

continued from page 23

operator, even the best of the breed, has to spread himself paper-thin. He tends to delegate important decisions to underlings, contrary to factory advice that a dealer should exercise rigid control over his entire operation.

What the factories fear even more than absentee management is the vast power a small group of chains would hold over the industry if they were to join forces in opposing Detroit. If a handful of high-volume operators were to unite in a boycott over an extended period, the result would be a serious crippling of car production. Or if a group of chains suddenly decided to switch franchises, the factory formerly represented by the insurgents would find its dealer organization riddled with scores of open points.

Car makers are cognizant of these threats and, for their own safety, will step in to stem the resurgence of the chain should the trend swing too far. This argues against chains replacing the conventional one-outlet dealer.

Provides Check Against Chains

Aside from the "built-in" danger to manufacturers in allowing the chain idea to spread too far, factories also recognize that the single-store system of car merchandising provides a check against chains stepping out of line. *The single store is here to stay.*

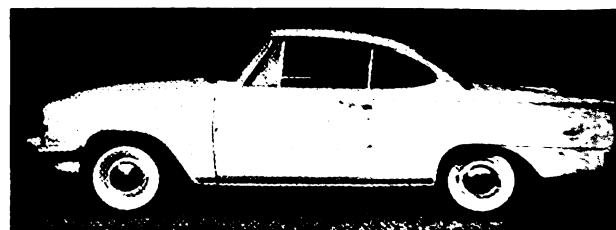
If history repeats, if the new breed of mass marketers follows in the footsteps of predecessors, Detroit won't have to stem the tide. The chains will eventually put themselves out of business.

The chains of 12 years ago gradually degenerated to discount houses. They sold price, nothing more. The higher their volume, the more they discounted. And the more they discounted, the more arrogant they became in their dealings with the public.

One network of the early 1950's, consisting of about 40 stores, cut customers off with this line, "The deals we give are so good there's nothing left for makeready, warranty or service. Take it some place else." At last count, this operator was down to two stores.

When it came time to trade for the next car, thousands of customers decided they wanted more than a

Sport Model from English Ford



Consul Capri, two-passenger sport coupe. A 56.5 hp engine drives through four-speed transmission with choice of floor or column shift. Disc brakes are used at front and drums in the rear

discount deal on a basis of buyer beware. At the same time that customers turned away from the volume operators, their crack salesmen began to pull out.

To drive prices down to attain volume, the chains had to reduce commissions. When deals became so thin that the man on the floor was lucky to wind up with \$10 or \$15 per deal, with no chance of getting a repeat sale or referral business, salesmen walked out. The chains had had their day.

The solid dealer doing business in the traditional way has faced this enemy before. Those who have earned a reputation for integrity, fair prices and fair treatment of the customer have nothing to fear in the comeback of the chain store.

THE END. NOW TURN BACK TO PAGE 24

As Engineers See It

continued from page 31

radio installed in the car would receive messages transmitted by law enforcement agencies. A portable transmitter located near a flooded section of road, for example, would warn approaching cars to slow down to a safe speed. Fire trucks and other emergency vehicles could transmit radio signals warning other traffic in the vicinity, according to Runft.

An electronic car-theft alarm would deliver the thief right into the arms of the law. A concealed transmitter would go into action automatically if the car were started by any means other than turning on the ignition key. The signal would be received by the police, enabling them to track down the car immediately.

Car telephones will be commonplace within 10 years, believes Runft. If they follow the same trend as automatic transmissions, power steering and other extras, the number of car phones in use will climb from the present 18,000 to 5,000,000 within this period. Telephones will be offered as a dealer-installed option.

Today's car phones have decoding systems which make it possible to select the correct dialing code out of 51,111 possible combinations. By 1970, it is expected that much smaller decoders will have a capacity of 10,000,000 codes.

THE END. NOW TURN BACK TO PAGE 32

Car Dealer Profits Improve

According to the National Automobile Dealers Assn., car dealers improved their profit position in the third quarter of 1961. Combined operating profits at the end of nine months averaged 1.1 per cent of sales, or \$52 per new unit sold, compared with .9 per cent, or \$45 per car, reported at the end of the first half.

Wash-out gross averaged \$415 for every new car sold. This compared with an average of \$399 at the end of June. The number of dealers who had some operating loss in the first nine months averaged out to 22.5 per cent of the total. Average selling price of used cars dipped from \$758 to \$756.

MOTOR, December 1961

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Service Tips On 1962 Rambler

continued from page 25

turns or, with a new driven plate, one and one-half turns.

Next, loosen the lock nut on the tow start cable. Turn the hex adjuster to obtain a clearance of $\frac{1}{8}$ in. between the pivot and the throw-out lever; tighten lock nut.

To adjust the shifting mechanism, loosen the trunnion lock nuts from the gearshift rods, pull the

cotter pins from the trunnions at the transmission levers, and disconnect the rods. Install a $\frac{1}{4}$ in. aligning pin in the holes of the operating levers, with the pin indexed in the groove of the lever spacer, to set the levers in neutral. Then adjust the trunnions on the gearshift rods to enter the transmission levers freely, and reassemble.

The actuator cam switch mounted on the steering jacket tube under the instrument panel times the clutch release to coincide with the shift. Adjust the

switch on its slotted bracket to obtain a click as the switch closes when the shift lever is moved out of second or high. Lever movement should be equal coming out of second and high.

Adjust the cam stop, with the shift lever in high, to take up approximately one-half of lever free movement. This centers the slot in lever over the selector key, eliminates tension and lever shake.

A stall test can be made to determine whether the components and engine are operating normally. Install a tachometer and, with the engine at normal operating temperature, drive the car in high at 10 mph. Open the throttle wide and apply the brake to maintain the 10 mph speed. Under this test condition the tachometer should normally indicate 975 to 1,125 rpm maximum. If the rpm is too high, the clutch is slipping.

Find the Cause

This can be caused by improper adjustment of the throw-out lever, lever fork not installed on throw-out bearing guide pins, low engine oil level, or worn or oil-soaked clutch facings. If engine speed is too low, the engine is not developing normal power or servo oil pressure is too high.

An oil-pressure test is used to check valve and diaphragm operation. With oil and water at normal operating temperature, install oil pressure gauge at pipe plug location on valve and diaphragm assembly. Connect tachometer and set idle at 550 rpm with shift lever in neutral. Remove vacuum hose at manifold and plug manifold opening. Do not plug hose.

Check Oil Pressure

Oil pressure should read 4.5 to 6.5 lb. per sq. in. at 550 rpm, 24 to 28 lb. per sq. in. at 1,100 rpm, and 45 to 59 lb. per sq. in. at 2,200 rpm. If less than 45 lb. per sq. in. at 2,200 rpm, check for plugged vent in diaphragm body or stuck regulator valve in control valve body. If these are normal, replace diaphragm assembly. To correct lower than normal pressure at 550 and 1,100 rpm, free up the pressure regulator valve or replace the valve body assembly.

To check the air-valve solenoid, remove it from the mount and re-



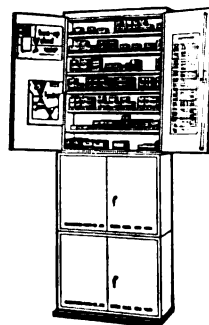
Some ignition parts deals offer "free" cabinets, but the cost of the cabinet is added to the price of the parts. But . . . GUARANTEED PARTS Merchandiser Cabinets are really free to dealers with the purchase of listed contents. There are no strings . . . no hidden costs.

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GUARANTEED PARTS CO., INC.
SENECA FALLS, NEW YORK



CA-633 Merchandiser

move the vacuum hoses. With wires connected, the shift lever in neutral and ignition off, the vacuum valve is closed and it should not be possible to blow through port marked "V." With ignition switch on, vacuum valve is open and it should be possible to blow through "V" port. Next, close port "D" with finger pressure. It should then not be possible to blow through port "V." Replace the air valve solenoid if it does not function.

Other possible troubles and their causes are as follows:

No release—Vacuum lines leaking, actuating cam switch out of adjustment, throw-out lever or tow-start cable improperly adjusted.

No engagement — Actuating switch defective or switch cam out of adjustment, low engine oil level.

Engine overspeeds on engagement—Throw-out lever out of adjustment.

Excessive creep—Idle speed too fast.

Clutch grabs—Driving plate facings worn, glazed, oil-soaked.

Excessive gear clash in first or reverse—Clutch throw-out lever out

of adjustment, incorrect idle speed.

Chatter — Clutch facings oil soaked, fork on throw-out lever not installed on throw-out bearing guide pins.

A change in the automatic transmission on 6201 and 6210 series replaces the vacuum control with a cable control. Check the oil level on the 6201 in neutral with the engine running; on the 6210 with the engine stopped

Cable Adjusted

To adjust the cable on a 6201 L-head, with the engine stopped and the carburetor off fast idle, remove the clevis pin and pull the cable out toward the carburetor. Adjust the clevis so its hole just lines up with the hole in the throttle rod shaft and the pin enters freely. On the 6201 overhead valve engine and the 6210, procedure is the same except that the clevis should be lengthened one turn before the pin is installed.

Pressure reading on a 1,400 rpm stall test on a 6201 L-head should be 110 to 130 lb. per sq. in. On the

[CONTINUED ON PAGE 112]



Tool Tips for the Mechanic

Volkswagen Generator and Axle Nuts

Use the SNAP-ON® LDH-462 1 $\frac{1}{16}$ -in. socket to handle the generator nuts and axle nuts on the Volkswagen. Socket is $\frac{3}{4}$ -in. drive but can be used with $\frac{1}{2}$ -in. drive wrench with a SNAP-ON LA-12 adapter. See page 36-37, Catalog X.

Front-End Suspension Wrench

Keep the SNAP-ON S-8679A wrench in your tool box to replace spindles, upper and lower ball joints, coil springs, and upper control arms. Adjustable design permits use of tool on 1954-60 Ford and Mercury; 1952-60 Lincoln; 1957 DeSoto; 1958 Dodge and Plymouth. Page 78, Catalog X.

NEW TOOL



Snap-on B-1356

Brake Shoe Spring Tool

This tool removes and replaces the brake shoe retaining spring caps on all model cars. Tool fits both the coil spring cap and the flat spring cap. To remove the coil spring cap, place tool over cap and apply downward pressure and twist. To remove flat spring cap, place grooved part of tool over spring, apply pressure and twist. A big timesaver for any shop doing brake work. It's not in your current catalog. Order now from your SNAP-ON man.

Corvair Steering Service

Many mechanics use the SNAP-ON V-22 valve adjusting tool with a TW-181 $\frac{3}{16}$ -in. master socket to adjust steering on the 1960 Corvair. Works like a million. Pages 72 and 30, Catalog X.

Ford Vacuum Control

Use the SNAP-ON FCO-24 $\frac{3}{4}$ -in. crow-foot wrench to adjust vacuum control on the 1961 Ford automatic transmission. Also good for tightening lines on Mercury power steering. Page 24, Catalog X.

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Service Tips On 1962 Rambler

continued from page 111

6201 overhead valve and 6210 it should be 100 to 120 lb. per sq. in. Idle pressure in neutral at 475 rpm is 55 to 62 lb. per sq. in.

With the new master brake cylinder, the front and rear brakes have separate hydraulic systems. The master cylinder has two fluid reservoirs and two pistons, with the forward piston applying the front

brakes and the back piston the rear brakes. On the Bendix unit the two pistons are operated in tandem by a push rod, on the Moraine unit the rear piston floats.

To bleed the master cylinder adequately, when it has been removed and the brake lines have not been drained, clamp the cylinder horizontally in a vise and fill with fluid to the bottom of the threads. Depress the primary piston fully with the outlet ports open and hold until the ports are sealed with two fingers. Then release the

piston and allow it to return fully. Repeat six times until a clear stream of fluid is ejected. Refill to the bottom of the threads and install the master cylinder on the car.

Depress the brake pedal to build up a moderate pressure, crack the front brake outlet fitting, and allow the pedal to go down as far as it will go. Hold it down and tighten the fitting. Repeat for the rear by cracking the rear brake outlet fitting. If the top of the pedal on cars with manual brakes is less than 3 in. to the floor mat with 32 lb. applied to the pedal, repeat the cracking operation. If still less than 3 in., check pedal free play and adjust eccentric to obtain $\frac{1}{8}$ - $\frac{3}{8}$ in. free play, measured at the pedal.

Check Manual Brake

Should this not be obtainable, check manual brake for presence of rubber bumper at bottom of push rod hole. Additionally, each wheel brake adjustment should not be looser than 20 clicks from a tight drum condition, and free pedal height from the floor mat to the top of the pedal should be a minimum of 6 in.

For engine identification code numbers are now prefixed with a letter to designate the type engine installed. On 6 cyl. engines, the code number is located on a machined pad at the upper left front corner of the cylinder block. On the V-8, it is stamped on a tag attached to the generator-mounting bracket. Prefix "A" indicates the L-head 01 series 6, "B" the aluminum block engine for the 10 series, "C" the cast-iron block overhead valve engine for the 01 and 10 series, and "E" the V-8 engine.

Has Metal Bushings

On 6210-80 models the upper control arms are attached to the upper trunnion on the knuckle with conventional metal bushings. At the inner ends they are attached to the mounting bracket on the wheel housing with rubber-insulated bushings utilizing an eccentric-type caster and camber adjustment. Adjustment is made from inside the engine compartment. Recommended lubrication of the front suspension is every 33,000 miles, or 3 years, with a sodium-base lubricant.

THE END. NOW TURN BACK TO PAGE 25

HAVING TROUBLE SANDING UNDER ACRYLICS?



National-Detroit's Model "DA" is the answer to the problem of sanding prime coats before spraying Acrylics. This air driven sander will really sand with fine abrasive grits needed to prepare prime coats, and to do many other jobs normally requiring hand work. Because of its unusual "Dual Action" the Model "DA" will not generate heat . . . will not load abrasive. The sanding pad is off center, and revolves free and independent of the driving-head. This gives a fine finish quickly and easily, with a minimum of abrasive.

For full information write for the New National-Detroit Catalog or call your jobber.



NATIONAL-DETROIT, INC.
ROCKFORD, ILLINOIS

NSU Prinz 4 Bows



Added to German NSU line is this Prinz 4. Powered by 2 cyl., 36 hp rear-mounted engine, model is priced at \$1,598, East Coast ports of entry

What Detroit Is Thinking

continued from page 25

To translate those vague phrases into dollars you have to hark back to a time before World War II, when major car makers had a figure on the cost of opening a new store. Using the prewar figure as a guide and allowing for inflation, the present price of canceling one dealer and replacing him with another may run as high as \$25,000 or \$50,000, depending on the size of the operation.

A factory can get off cheaper than that if the ex-dealer is a voluntary dropout, if the manufacturer does not have to buy back a lot of stock, parts, signs and the like and providing the replacement already has a salesroom and a service department. But something in the \$25,000 to \$50,000 range is not an unreasonable estimate.

Pace Once Frantic

Until a few years ago, prior to the Good Faith Act, factories canceled dealers and signed new ones at such a rapid clip that dealer census departments couldn't keep up with the changes. In some instances, factory field men were empowered to disenfranchise without consulting Detroit.

The year now closing has been a period of relative stability for retailers, giving factories pause to do some figuring on the cost of replacements. Manufacturers will not release this information for publication. But the mere fact that Detroit is thinking in this direction points to a greater security for dealers. Playing checkers with dealers may have been a fun game a few years ago, but at \$25,000 or \$50,000 a move, who can afford it?

Strike Forced Preview

Ford merchants who complained about the company's "deliberate" (to use the same word employed by company officials) showing of Fairlane in advance of the dealer unveiling date may be able to fathom

[CONTINUED ON PAGE 114]

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3. PS-35 SUPER-CHARGER has no moving parts. Full-wave silicon rectifiers are convection cooled. Charges 35 to 40 amps on either 6 or 12 volts.

4. SATI-LITE is a fast-selling charger for home use. No meters, no switches, no circuit breakers. Charges batteries of any voltage... 6, 12, 18, or 24 volts.



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What Detroit Is Thinking

continued from page 113

the maneuver by having a fill-in on what went on behind the scenes.

Ford sponsored six cross-country cavalcades of the car the end of October, although the dealer showing date was not until Nov. 16. The company was motivated by several considerations, chief of which was a desire to throw Fairlane against prospects for Chevy II. (Although Chevrolet sees "II" as competition for Falcon, Ford views it as rival for Fairlane.)

Fairlane got off to a late start due to labor trouble. Ford hoped the pre-preview would help it overcome the handicap by giving the car visibility with customers who might be looking at Chevy II, even though Ford dealers did not begin receiving volume supplies of Fairlane until this month.

Wonder Car Season

This department comes now to its annual report on the wonder car, a compilation eagerly awaited by a trembling Detroit. The reason the report strikes terror in the hearts of industry executives, sometimes for as long as three or four seconds, is because of the threat the wonder car poses to the conventional automobile.

The wonder car is a marvelous machine, far surpassing the crude, over-priced tumbrels produced by Detroit. An ordinary everyday wonder car, for example, gets at least 50 miles to the gallon—that is, if it uses fuel. (Many wonder cars run on tap water or mysterious pills.)

As for the 4,000 to 6,000 mile oil change that Detroit thinks is so hot, an average wonder car can run 250,000 to 500,000 miles between changes. But it's on price that the wonder car really outshines the Detroit product. The proposed list price of a typical wonder car is seldom higher than \$1,200. And that's for a full-size job, not a compact.

The only thing that has saved Detroit from certain ruin is that the wonder car is never produced. The people who conceive them send out the word, enjoy a big play in the press and then retire to paste-up their scrapbooks. The next you hear of them is seven years later when one of the inside low-down magazines runs a first-person exposé entitled "Why Sinister Forces in Detroit Blocked My Car, the Go-Devil Barouche."

Total Slips to Three

The past year has not been a prime time for wonder cars. Since this poll was inaugurated several years ago, wonder cars have been rolling out at a rate of five a year. This year's count is down to three: (1) A revolutionary four-wheel drive vehicle that a British company has been announcing for a dozen years; (2) A combination automobile-airplane invented by a man in Texas and, (3) An electric-powered plastic body number, worked up by a firm in western Michigan. Production schedules are not yet firm.

O.K., you guys—Jack, Henry, Lynn, George, Sherwood—let's see you laugh that off.

THE END. NOW TURN BACK TO PAGE 26

Inventory Can Cut Income Tax

continued from page 37

prices, the cost valuation may not reflect prevailing conditions. It may cost more to replace the stock than is indicated on the inventory valuation and the profit picture will not be a true valuation of your inventory.

The cost or market, whichever is lower, method gives you a low value for your inventory at the end of the period. It will reduce your gross margin for the past year and will increase it for the coming year. Current sales are charged with the stock at the lowest possible price during the period.

When you decide to use this method of inventory valuation, you will need to set up two values. You must determine both the cost and the market price for each item in stock. Then, you must select the lowest of these and use it for your inventory valuation.

For instance, consider the following examples:

Item A Cost ..	\$5.00	Market ..	\$7.00
Item B Cost ..	\$1.50	Market ..	\$1.00
Item C Cost ..	\$3.50	Market ..	\$3.00
	<u>\$10.00</u>		<u>\$11.00</u>

The total of the items based on cost is \$10 and on the market value it is \$11. However, for inventory valuation with this method, you must select the lowest price for each item, \$5; \$1; and \$3 giving



"This one has practically no mileage on it. The former owner had claustrophobia"

you an inventory valuation of only \$9 for these items.

Car dealers using this method for used cars usually use the current wholesale auction figures for the cars to determine the "market" value. The cost figure, of course, is the amount allowed the motorist on a trade-in.

For instance, you may allow \$1,200 on a used car as a trade-in. This is your investment in the car and, when you use the "cost" method, this is what should be used for inventory valuation. However, if you are using the "cost or market, whichever is lower" method you would value this at the current listings in one of the used car auctions. This might be \$950 even though the book value is \$1,000. This is a more stable figure, but the auction figures represent the day-to-day price quotations on various makes of used cars.

Easier to Take

Retail valuation is perhaps the most popular method of inventory for parts and accessories with either car dealer or garage. It is easier to take, easier to compute, and gives a true picture of the value of the parts and accessory inventory.

With the retail inventory valuation method, you count and list your parts stock at its retail value. For instance, you check the retail price listing on all parts bins and value your inventory accordingly.

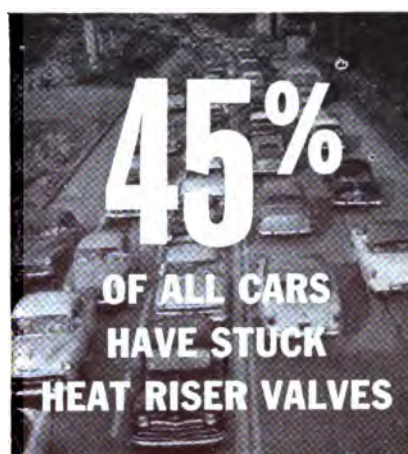
When the parts and accessory inventory is complete, the extensions are made and totals determined for the retail value. Next, you translate this to a cost figure for determining your profits for the year.

Reduces Valuation

For instance, if the total of your parts and accessory inventory based on the retail valuation is \$10,000, you reduce this by the amount of your average markup. For instance, if you double your cost on your stock, your inventory would be \$5,000 at cost. Or, if you obtain a 35 per cent markup on the average, you would reduce the \$10,000 retail valuation by this amount.

First-in-first-out as an inventory valuation method is based on the assumption that the first stock pur-

[CONTINUED ON PAGE 116]



Recent survey points up strong need for PART-EASE® lubrication SERVICE

A survey among representative service stations and car dealers showed that nearly one out of every two cars checked wasn't getting top engine performance and economy—because of stuck heat riser valves!

What can you do? Check the heat riser valve with every lube and tune-up—and apply PART-EASE Loosener & Lubricant when needed. PART-EASE is a new type of loosener and lubricant, made especially for manifold heat control valves. It cuts through lead and carbon deposits that cause sticking; frees the valve; and keeps it working properly. Prevents sticking, gumming and rust from lube to lube. Always use PART-EASE—it "TAKES APART... KEEPS APART."

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MOTOR Again Wins Award of Merit

MOTOR Magazine again has received an Award of Merit in the editorial competition conducted annually by Industrial Marketing. The publication's 23d yearly award was given MOTOR for the outstanding single issue during the period ended last June 30 in the merchandising, trade and export paper division. It was based on MOTOR's October, 1960, issue, the special Detroit automobile show number.

The award was MOTOR's sixth in the last nine years. It has received other awards for best single issues, for graphic presentation, and for outstanding single articles.

Inventory Can Cut Income Tax

continued from page 115

chased was the first stock sold. Thus, the stock on hand at inventory time is the stock most recently purchased.

FIFO inventory valuation does not work too well for new or used cars. There is considerable variation of the different models in stock to set up a unit control for each new car, for instance. Different accessories will change the price of the new car and will further complicate the inventory and stock control work when this method is used.

To use the FIFO method, you will need to maintain unit control records that also indicate the cost price of each purchase. Then, when you take your inventory, you work back from the latest cost until the quantity of stock is valued on the inventory.

Consider this example in applying the FIFO method of inventory valuation:

	Purchases	Cost
Jan. 1	24	\$1.00
Apr. 10	12	\$1.50
May 28	12	\$2.00
Oct. 20	6	\$3.00

If the inventory count on Dec. 31 reveals that there are 20 of these items in stock, your valuation would be handled in this way:

6 @ \$3.00	.....	\$18.00
12 @ \$2.00	.....	\$24.00
2 @ \$1.50	.....	\$ 3.00
20		<u>\$45.00</u>

Since it is the objective of merchandising to sell the old stock first,

this inventory method has many advocates. It is complicated to calculate, however, because unit control records must be maintained and several extensions must be made on most items in stock.

Last-in-first-out has come in for more and more attention recently.

This method charges current costs against current sales. Thus, it prevents profits from being overstated. Overstated profits mean that there is an overpayment of taxes. And, since taxes must be paid in cash, a firm may find itself without adequate cash to replace stock due to overpayment of taxes.

For instance, consider this example in applying the LIFO method of inventory valuation:

	Purchases	Cost
Jan. 10	12	\$1.00
Mar. 15	6	\$1.50

Puzzled by Self-Adjusting Brakes? . . . continued from page 41

moving in reverse, servo action forces the primary shoe against the anchor pin. The same action, plus hydraulic pressure, pushes the upper end of the secondary shoe away from the anchor pin. Such movement causes the cable to pull the adjusting lever upward. This lever is in contact with the adjusting screw star wheel.

If the shoes move far enough, the lever will rise sufficiently to pass over the end of the tooth on the star wheel and, on brake release, will turn the star wheel one notch. This action cannot take place when a car is braked while moving forward because the secondary shoe is forced toward the anchor and there is no raising of the adjustment lever.

July 10	12	\$2.00
Oct. 10	12	\$3.00

If the inventory count on Dec. 31 reveals that there are 20 of these items in stock, your valuation would be handled this way:

12 @ \$1.00	.....	\$12.00
6 @ \$1.50	.....	\$ 9.00
2 @ \$2.00	.....	\$ 4.00
20		<u>\$25.00</u>

As you can see, the LIFO valuation method gives a lower value than the FIFO in periods of rising prices. But, when prices are falling, the FIFO method gives the lower value.

LIFO has plenty of income tax advantages for an automobile dealer or repairshop during times of rising prices. However, when prices fall, the reverse is true.

Each of the five approved inventory valuation methods will give a different result for the same physical stock count. Thus, your profit will be different depending on the inventory method selected for your inventory valuation.

As mentioned earlier, the Internal Revenue Service requires you to be consistent in your inventory valuations from year-to-year. However, you can request a change from your present method if you feel that another method would fit your operation better.

THE END. NOW TURN BACK TO PAGE 38

Procedures for servicing self-adjusting brakes are not baffling. But there are a few precautions.

On most models, after the shoes have been fixed to the backing plate with the hold-down pins, and the adjuster screw has been threaded all the way in and installed, the cable guide is fitted to the web of the secondary shoe. With the cable eye attached to the anchor pin, the pull-back springs are installed in the usual manner. The cable is then fed around the guide and is attached to the adjusting lever, which is also hooked to the web of the secondary shoe. The lower pull-back spring is then attached from the lever to a hole in the primary shoe web.

Cadillac uses a long lever arm

instead of a cable. This arm is attached to the secondary shoe and pivots to turn the adjusting screw. An extra hold-down pin is added to the primary shoe in place of the adjustment lever pull-back spring found on other cars.

After assembly, check the operation of the lever by pulling on the cable. Each pull and release should advance the star wheel one notch.

To assure efficient operation of the automatic device, proper lubrication must be applied to all contact points on the backing plate and to the cable guide. The lubricant must be a high-temperature type and applied sparingly.

The repairman must also be careful to reinstall the adjusting screw assembly on the same wheel it came off. Interchanging these assemblies from one side of the car to the other would cause the brake shoes to retract rather than expand each time the automatic adjusting mechanism operated. A good rule to follow is: If the adjusting screw has a *left-hand* thread, it belongs on the *right side* of the car and vice versa.

Screws Are Grooved

Adjusting screws on Ford cars are grooved with two lines to indicate that they belong on the right side and one line for the left. These cars also have the adjusting lever marked "R" and "L." Cadillacs have one groove on the adjusting screw to indicate that it belongs on the right, two grooves for the left.

Oldsmobile marks only the right side assembly with four grooves and cautions that the sprocket end of the screw must be toward the rear on all wheels.

Rambler and Dodge have no special identification.

Use Brake Spoon

After a brake job, an initial adjustment must be made before road testing. This should be done with a good brake spoon and not a screwdriver or putty knife. Burring or chipping of the notches will interfere with the operation of the self-adjusting lever.

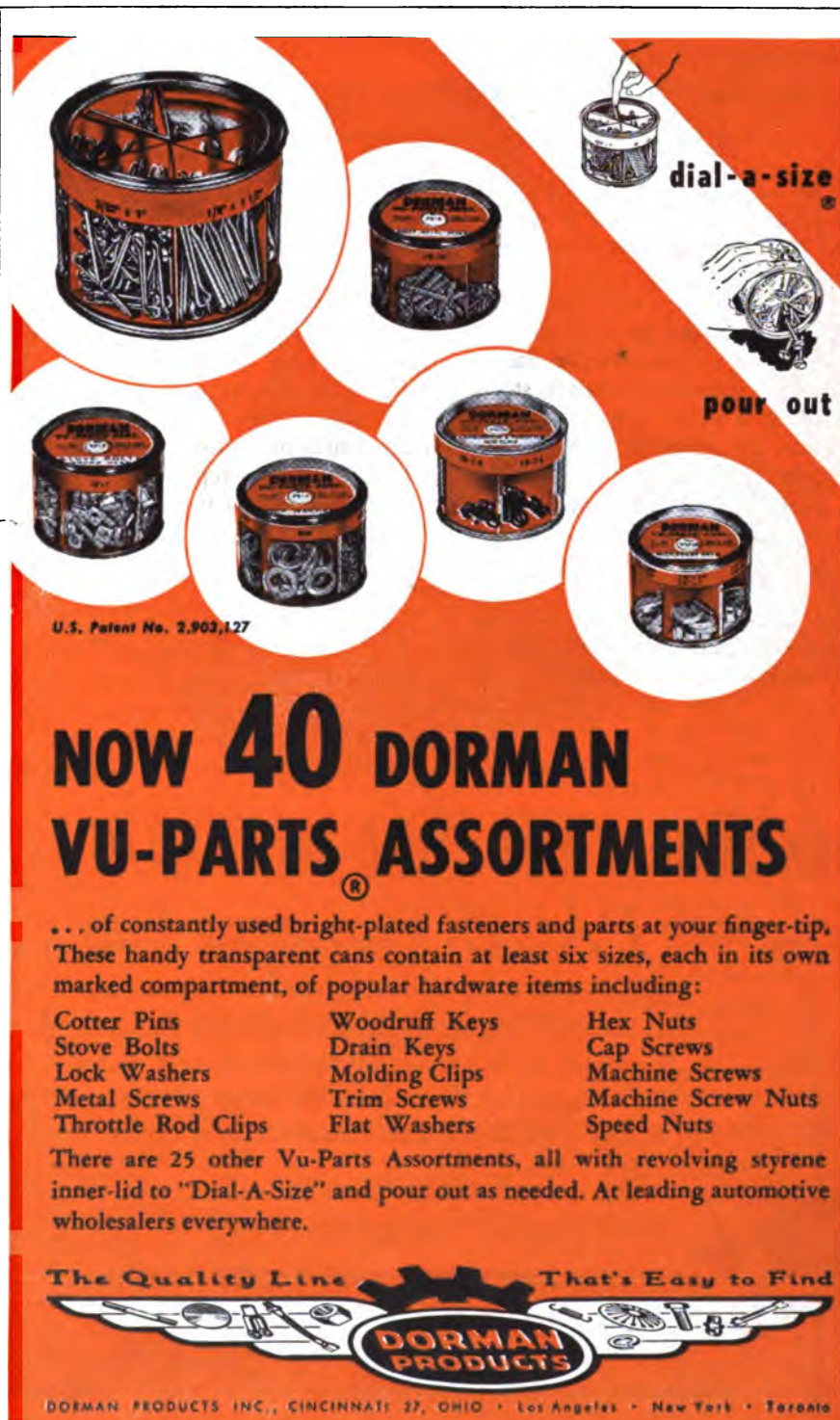
The star wheel may be turned in the usual manner until the brake shoes drag against the drum. To back off, it is necessary to disengage the adjuster lever from the star wheel. This can be done with a

thin screwdriver or awl inserted through the backing plate slot and held against the lever. Pressure applied against the lever will release the star wheel and allow backing off until a correct adjustment is achieved.

Cadillac does not provide a slot in the backing plate. Initial adjustment can be made with a brake spoon through a slot in the drum. In this case, a small wire hook can be used to *pull* the adjusting lever away from the star wheel while backing off.

When the car is on the floor, check the brake-pedal height. Be sure the brakes are functioning. Then drive the car continuously in reverse, making seven or eight brake applications. This will equalize the adjustment on all four wheels and assure correct pedal height. If the self-adjuster does not operate, remove the drums and check cable alignment in the guide, alignment of the lever and star wheel sprockets and all parts for freedom of movement.

THE END. NOW TURN BACK TO PAGE 42



U.S. Patent No. 2,903,127

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DORMAN PRODUCTS INC., CINCINNATI 27, OHIO • Los Angeles • New York • Toronto

Service on New Fairlane, Meteor

continued from page 39

rear on the left bank. Do not attempt to install a ring in the top-most groove in the piston. This groove is designed to function as a heat barrier.

Alignment of the intake manifold with the block and heads is important, if oil leakage is to be avoided. After torquing cylinder head bolts to 65-70 lb.-ft. with oiled

threads, install intake manifold end seals and gaskets. Insert a guide pin in the manifold bolt hole in one front corner of the block and another in the rear corner, diagonally opposite. Pins may be made by sawing the heads off of bolts of the same diameter. Install the manifold and all bolts except the two in the guide pin holes. Remove the guide pins, install the proper bolts in their places and torque all bolts to 12-15 lb.-ft., starting from the center and working toward the ends.

Tune-up of the new V-8 follows regular Ford practice. Spark timing is set with the distributor vacuum line disconnected. Initial timing is 6 deg. BTDC. Timing may be advanced beyond this setting by road-testing the car, finding the point at which the engine detonates on acceleration, then retarding the spark just enough to eliminate the ping. Maximum advance should never exceed 11 deg.

Breaker point setting is .014 to .016 in. and dwell is 26 to 28½ deg. Centrifugal advance starts at 525 distributor rpm and reaches its maximum of 12 to 13½ deg. at 2,000 rpm. Vacuum advance begins at 5 in. of mercury. Maximum is 7½ to 10½ deg. at 18 in. The 18mm spark plugs require a gap of .032 to .036 in.

Idle Speeds Given

Idle speed with manual transmission is 550 rpm for the 6 and 500-525 rpm for the V-8. With automatic transmission in Drive, idle speed should be 525 rpm for the 6 and 475-500 rpm for the V-8. On 6 cyl. engines with positive crankcase ventilation systems, idle speed should be 50 rpm higher with either transmission.

Cars equipped with power steering have an idle-speed compensator to prevent stalling when the wheels are turned all the way in either direction. When the power steering pump develops maximum pressure, a control valve forces a plunger against the throttle linkage bellcrank, opening the throttle enough to compensate for the extra load and maintain normal idle speed.

Check Clearance

Clearance between the plunger and the actuating tab should be checked and adjusted, if necessary, whenever idle speed is set. To make the adjustment, loosen the jam nuts on each side of the plunger bracket, then start the engine. With wheels in the full-turn position, measure the clearance, which should be ⅜, or .1875, in. Turn the plunger cartridge forward to decrease clearance or backward to increase. Check to see if idle speed is normal with steering against the stop. If not, readjust the plunger to get the specified speed. Never keep the steering linkage against



QUICK REMEDY FOR TUNE-UP-PHOBIA Complete PACCO tune-up kits

Every Pacco Carburetor Tune-Up Kit contains step-by-step instructions for the carburetor your customer is working on . . . plus service tips and changes, and a clear diagram of every part. He tunes carburetors expertly—and makes good money doing it.

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Moral: Prescribe Pacco complete tune-up Kits.



PRECISION AUTOMOTIVE COMPONENTS COMPANY
Ballwin, Missouri

stop for more than 15 seconds. When the adjustment is correct, tighten the jam nuts.

The thermostatic spring in the automatic choke is adjustable for operation. In production, the short end of the small torsion spring is inserted in the center prong in the choke housing. If the mixture is rich immediately after starting, the tang should be moved to the right prong. When the mixture is lean, move the tang to the left prong.

Fuel Filter New

The new fuel filter has an element which requires replacement every 30,000 miles. If there is any indication of fuel starvation, install the filter for clogging. To change the element, unscrew the top and throw away the old element and gasket. Clean the housing in solvent. Coat a new gasket with light engine oil, install the gasket and element and screw the housing. Start the engine and check for leakage.

Fuel pump pressure is $3\frac{1}{2}$ to $5\frac{1}{2}$ lb. for the 6 and 4 to 6 lb. for the 8.

Minimum volume is 1 pt. in 30 seconds at 500 rpm for 6 and 1 pt. within 20 seconds at same speed for the V-8.

Airplanes and Meteors equipped with manual transmissions have an interlock to prevent shifting into first or reverse until the clutch is fully released. If there is difficulty shifting into first or reverse, or these gears can be clashed with the clutch engaged, check the interlock adjustment.

Check Pedal Travel

First be sure that clutch pedal travel is $\frac{1}{16}$ to $1\frac{1}{16}$ in. and total travel is $6\frac{5}{8}$ to $6\frac{7}{8}$ in. Then disconnect the interlock shift rod at the clutch equalizer bar. Push the transmission in neutral, adjust the position of the interlock shift rod so that it fits snugly over the tooth on the low-and-reverse shift lever. Reconnect the interlock shift rod to the equalizer bar and adjust the length of the rod by sliding the rod in the elongated hole.

When the rod is adjusted correctly, the interlock should disengage from the shift lever when the clutch is fully released and the shift lever has moved into the over-range. Tighten the adjusting

nut and check the operation of the interlock.

Front suspension of the two cars is similar in general design, with coil springs mounted above the upper control arms. Although the construction and mounting of the lower control arm on the Meteor differs from that of the Fairlane, the procedure for setting caster and camber is the same for both cars.

No shims are used for adjusting front wheel alignment. Elongated holes in the upper control arm inner shaft allow the shaft to be

moved in or out to alter caster and camber. Loosen the inner shaft bolts two or three turns, then turn the wheels to the extreme right and left to free the upper arm. Return the wheels to the straight-ahead position. Tighten the bolts until they are just snug, not tight.

When the front end of the upper arm is moved outward or the rear end is moved inward, positive caster is increased and negative caster decreased. When the rear end is moved outward or the front

[CONTINUED ON PAGE 120]

Good Money REPAIRING RADIATORS!



A real opportunity awaits someone in your area to cash in on the growing volume of radiator servicing. Why not YOU? Consider these facts:

- The high pressure in today's auto cooling-system demands more frequent radiator servicing.
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- The number of autos, trucks and tractors in your area increases every year.

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a week

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first week

\$9,445
first year

\$10,000
a year

\$13,500
first year

Service on New Fairlane Meteor

continued from page 119

end inward, positive caster is decreased and negative caster increased.

Whenever the arm is moved outward, positive camber is increased and negative camber decreased. Moving it inward decreases positive camber and increases negative camber.

While an experienced front-end

man can set caster and camber without additional equipment, a special tool incorporating adjusting screws is available to simplify the job of moving the arms just the right amount.

After adjustment is completed, tighten the bolts to 115 to 135 lb.-ft. and recheck the setting. Specified caster is 0 deg., plus or minus 1/2 deg. Camber is 1/2 deg. positive plus or minus 1/2 deg.

Shock absorbers are removed and replaced in the same manner as in the Falcon and Comet. The front

shocks and upper brackets are taken out through the engine compartment. Upper retaining nuts for the rear shock absorbers can be reached after removing access covers in the floor of the trunk.

THE END. NOW TURN BACK TO PAGE 40

Things to Come

DEALER CONVENTIONS

- Dec. 4 Utah, Salt Lake City
- Dec. 4-5 Minnesota, Minneapolis
- Dec. 8-9 Montana, Billings
- Feb. 3-7 National Automobile Dealers Assn., Atlantic City

AUTOMOBILE SHOWS

- Feb. 21-25 Hartford, Conn.
- Apr. 21-20 New York, International Automobile Show
- Oct. 20-28 Detroit, National Automobile Show

PARTS AND EQUIPMENT SHOWS

- Dec. 9-11 Annual Auto Trim Show, Los Angeles
- Jan. 29- Feb. 1 Automotive Accessories Manufacturers of America Exposition, Chicago
- Feb. 28- Mar. 3 International Automotive Service Industries Show, Chicago
- Mar. 21-25 Pacific Automotive Show, Portland, Ore.
- Apr. 11-13 Canadian Automotive Service Show, Toronto
- Apr. 12-14 National Truck, Trailer and Equipment Show, Los Angeles

GENERAL

- Dec. 7-14 Automotive Electric Assn. Annual Meeting, Chicago
- Jan. 8-12 SAE Automotive Engineering Congress and Exposition, Detroit
- Feb. 26-27 Automotive Service Industry Assn. Convention, Chicago
- Mar. 28-31 National Automotive Radiator Service Assn. Convention, Los Angeles
- May 20-23 Automotive Engine Builders Assn. Convention, Detroit
- June 20-23 Independent Garage Owners of America Convention, Asheville, N.C.
- June 29- July 1 IGO-California, San Diego
- Aug. 19-24 National Congress of Petroleum Retailers, Roanoke, Va.
- Oct. 28- Nov. 8 Automotive Warehouse Distributors Assn. Convention, Kansas City, Mo.

How Would YOU Fix It?

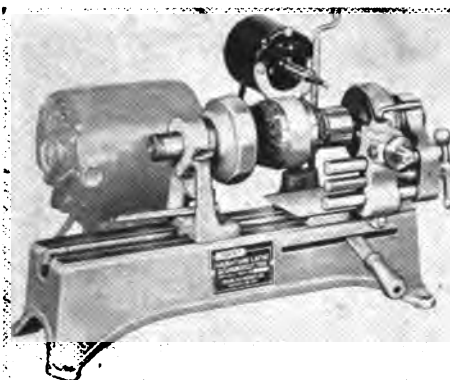
Answer to problem on page 62

► The one additional item the repairman wanted to check was the rod contacted by the modulator valve in the main valve body. When this rod was compared with a new one, it was found to be too short.

Installing a new rod restored the shift pattern to normal.

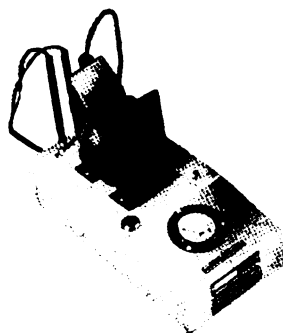


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Machines and undercuts commutators perfectly, without time-wasting set-up or adjustments. Motorized undercutter is simple, durable, accurate, yet gives the greater speed and convenience of direct motor drive.



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Waukesha, Wisconsin

Dauphine De Luxe Bows



New to Renault line, De Luxe has foam rubber, two-color bucket seats, additional trim. New transmission has all three speeds synchronized

Capital Close-Ups

continued from page 35

lar. Five Army and Air Force bases in the Washington suburbs now have spaces for servicemen to work on their own cars, including tools for repairs and parts at bargain prices. Post Exchange funds are used to finance the facilities. An instructor is available to provide know-how and assure safety.

No Radiation Hazard

Automobile locks containing radioactive tritium to make it easier to see to insert the key have been given a clean bill of health by Atomic Energy Commission inspectors.

AEC has announced there will be no export restrictions on the illuminators used in automobile locks because of the small amount of tritium used. Tritium (up to the infinitesimal amount of 15 millicuries) used to light locks is in form of paint, completely sealed in plastic.

Government experts decided that because no escape of the tritium is possible without destroying the plastic ring, it does not present a radiation hazard as long as the car locks are manufactured according to proper AEC specifications.

Grease Mixing Risky

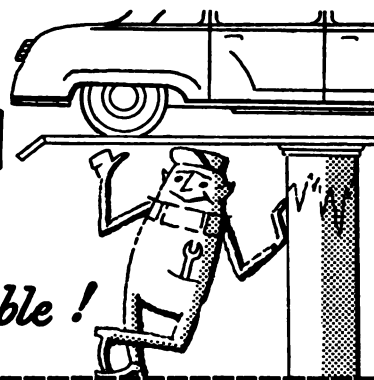
Automotive greases are like people in one respect—certain types just don't mix very well. Research completed by an Army team has disclosed that faulty interaction of some lubricating greases will cause bearing failure and eventually even affect performance life of the car.

A dozen types of automotive lubricants were tested including non-soap thickened, conventional soap-thickened, and organic thickened greases, as well as mineral oil and synthetics. "Compatibility" was determined by the degree of hardening or softening of component fluids. Of 1,261 tests, approximately three-

[CONTINUED ON PAGE 122]

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Get your share of this business without spending a fortune . . . 6 unit Basic Repair Assortment services 90% calls. No slow movers.

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Bishman FULL POWER, Air-Electric TIRE CHANGER

AIR POWER double bead breaker breaks both beads and drops them into the center well with one stroke.

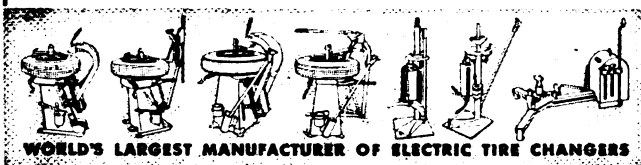
ELECTRIC POWER mount-de-mount tool lifts the tightest beads off and slips them on with a touch of the foot control pedal.

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DURKEE-ATWOOD COMPANY
Minneapolis 13, Minnesota

Capital Close-Ups

continued from page 121

quarters of the mixtures were found compatible. There were more than seven times as many cases of softening as hardening, and mixtures of silica-mineral oil greases caused the most trouble. Sodium soap-mineral oils seem to offer least resistance to flow in combination.

Safer Lifts Proposed

Greater safety for the design of automotive lifts in both hydraulic and mechanically operated models has been proposed by the Dept. of Commerce. The revised standard has been approved by manufacturers, distributors and users as well as the Automotive Lift Institute.

The recommended revision of Commercial Standard CS 142-58 (Automotive Lifts) is available upon request from the Commodity Standards Div. It describes the various types of lifts presently in use as well as methods of design that allow safe operation. When enough additional endorsements from car manufacturers and dealers are received, the new standard will be published.

Shorts

A panel delivery truck, mounted on a Rolls Royce chassis, driven by a liveried chauffeur, is an advertising gimmick devised by one of Washington's leading haberdashers. Home deliveries have soared and some customers even suggest the right time, when the neighbors are watching. . . . A Federal Reserve study for the 1955-1960 period shows a decline in the ratio of car financing to other business loans, from over three-fifths to less than 50 per cent.

THE END. NOW TURN BACK TO PAGE 36

9 of 10 Import Owners Pleased with Mileage

The Research Dept. of the National Automobile Dealers Assn., which recently conducted a survey, reports that 54 per cent of the buyers of imported cars purchased new in 1956-58 still own the same car.

On riding comfort, 56 per cent rated their cars as good, 40 per cent as fair, and 4 per cent as poor. Nine of 10 owners found gasoline economy good and 96 per cent said ease of handling in traffic was good.

Sixty-one per cent reported that very little repair work was required, while 30 per cent said a moderate amount was needed and 9 per cent replied that considerable work was done. Twelve per cent stated that cost of repairs was very expensive, 45 per cent said moderately expensive and 43 per cent replied repair costs were inexpensive.

Chevrolet Celebrates 50th Anniversary

Chevrolet Motor Div. last month marked its 50th anniversary. A week-long celebration was climaxed on Nov. 10 when 31 of the company's manufacturing and assembly plants held open house for employees, their families and community friends.

122

MOTOR, December 1961

Engines That Burn Less and Cheaper Fuel

continued from page 35

variety of combustion-chamber layouts can be used in this powerplant, much of the experimental work has been conducted with a modified F-head design.

The intake valve is in the cylinder block at the bottom of an auxiliary chamber, with the spark plug located directly over the valve. The exhaust valve is in the head, at the top of the main chamber and over the center of the piston. The two chambers are separated by a narrow throat. A fuel injector is placed in the throat.

Governs Power Output

Power output is governed by the duration of the injection period. At light load, air entering the intake valve fills both the auxiliary and main chambers. During the early part of the compression stroke, fuel is injected into the auxiliary chamber.

Since air in the main chamber is compressed by the piston, it exerts back pressure to prevent fuel from passing through the throat from the auxiliary chamber. Combustion takes place entirely within the auxiliary chamber. In this case, mixture strength in the auxiliary chamber is normal, while the main chamber contains pure air. As a result, the over-all fuel-air ratio is extremely lean.

When Load Increases

As engine load increases, injection starts earlier, during the latter part of the intake stroke. Incoming air now carries fuel with it into the main chamber until the start of the compression stroke. From this point on, the process is the same as described previously. When the spark plug fires, it ignites the charge in the auxiliary chamber. Flames pass through the throat to fire the charge in the main chamber, which is too lean to be ignited by the spark plug. The combination of a small quantity of normal mixture and a larger volume of lean mixture results in an over-all lean mixture.

At full load, injection starts early enough in the intake stroke to give mixtures of normal strength

in both chambers, enabling the engine to develop maximum power.

Another method of producing stratified charges has been developed by the Institut Francais du Petrole in France. This design employs an auxiliary carburetor and a rich-mixture tube extending through the intake port next to the valve. After the rich mixture is ignited by the spark plug, it sets off the lean mixture supplied by the regular carburetor through the main portion of the intake port.

From half load to full load, the

throttle of the regular carburetor is wide open and power is regulated by varying fuel flow. At less than half load, the main carburetor must be throttled. At light loads this engine can operate on mixtures approximately one-half as rich as those required by a conventional engine. With increases in load, the ratio gradually grows richer until it equals that of ordinary powerplants at maximum power. Fuel consumption of this engine is said to be 5 to 12 per cent

[CONTINUED ON PAGE 124]

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Engines That Burn Less and Cheaper Fuel

Continued from page 123

less than that achieved with normal carburetion.

Combining lean-mixture operation with the ability to burn a wide variety of fuels, the Texaco Combustion Process makes possible part-load economy comparable to that of a Diesel engine. As in the Hoderson engine, power is controlled by the length of time dur-

ing which fuel is injected. Air enters the combustion chamber through an angled port and shrouded valve, which gives it a swirling motion. Fuel is injected into this whirlpool of air, then ignited by a spark plug 30 to 60 deg. downstream from the injector. As long as injection continues, additional fuel feeds the expanding flame front.

At light loads, a tiny squirt of fuel combines with a portion of the swirling air to form a localized combustible mixture at the spark

plug. Pure air circulates through the rest of the combustion chamber. At maximum power, injection continues for the time required for a given portion of air to make one revolution around the combustion chamber.

The Texaco engine can burn light or heavy fuels, without regard for octane or cetane rating. Octane requirement is eliminated because the fuel does not remain in the cylinder long enough to detonate under the temperature and pressure created by an advancing flame front. Instead, it is injected into an existing flame and burned immediately. Cetane rating, which measures the ability of a Diesel fuel to ignite under the heat of compression with minimum delay, is unimportant because the charge is ignited by a spark plug. The engine's flexible appetite allows it to burn the cheapest motor fuel available in the locality.

Armed Forces Interested

This whole idea of multifuel operation is a hot subject in the powerplant field. The military services are vitally interested in engines which will burn a wide assortment of fuels, not from the standpoint of economy, but logistics. If jet fighters, piston-engined helicopters, tanks, trucks and portable generators could all run on any fuel from heavy Diesel oil to gasoline, the supply problem would be enormously simplified. Urged on by the armed forces, several companies in this country and abroad have developed such engines. In most cases, existing Diesels have been modified to burn gasoline and other light fuels.

Few Changes Required

The changes necessary to convert a Diesel to multifuel operation are few, but important. The biggest problem is to raise temperature and pressure enough to ignite gasoline, which has a high octane rating for the specific purpose of discouraging ignition by compression. Compression ratios in the Diesel are raised to increase both pressure and temperature. The incoming fuel is sometimes injected into a hot pre-chamber in the head or a cavity in the piston as a further aid to ignition.

Because of gasoline's high vola-

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Allen bit for Delco-Remy distributor adjustment

hooded screwdriver bit for carburetor idle adjustment

knurled bit tightener

flexible plastic-covered shaft... instant, no-lag action

plastic, shockproof handle

overall length with bits 14 3/8"

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XCELITE

tility, vaporization in the fuel lines or injectors is sometimes a problem. On some engines, fuel pump capacity has been increased and an additional pump submerged in the tank. Injectors have been redesigned to prevent gasoline from vaporizing before the injector is able to squirt it into the cylinder.

Converting a Diesel engine to burn expensive, high-octane gasoline doesn't make much sense from an economic standpoint. In the event of a national emergency, however, the idea could be employed to allow essential civilian vehicles to run on whatever fuel was available. In the meantime, the knowledge acquired through developments of this type will be useful in designing more economical engines for future use.

There are still many problems to

be solved before multifuel or stratified-charge engines are suitable for use in cars and trucks. Most of them require expensive fuel-injection systems. Designing a mechanism which will supply just the right amount of fuel, at the right time, over the wide range of speed, load and mixture ratios covered by such an engine is a job which will not be done overnight.

Auxiliary combustion chambers, rich-mixture tubes and similar devices handicap the engine's breathing ability at high speed. As a result, none of the stratified-charge engines equals a conventional gasoline powerplant in horsepower per cubic inch. The large surface area of some of these combustion chambers also allows more heat to pass off to the cooling water, reducing thermal efficiency. Some of the complicated cylinder-head designs carry a substantial weight penalty.

Despite the obstacles, development work continues. The sales appeal of more miles per gallon with cheap, plentiful fuel is too obvious to miss. Few engineers would care to predict whether one of these powerplants or some completely different design will make the grade, but none wants to be sitting back watching while the other fellow comes out with it first.

THE END. NOW TURN BACK TO PAGE 35

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White Buys Cletrac Corp.

The crawler tractor business of Cletrac Corp. has been purchased by the White Motor Co. Cletrac inventories, engineering and designs, and numerous machine tools, but not Cletrac's Cleveland plant, were acquired for approximately \$5,500,000 in cash.

Ad Group Elects Smith

Gail Smith, General Motors Corp.'s director of advertising and market research, was elected a director of the Assn. of National Advertisers last month at the association's annual meeting.

Can You Name It?

Answer to problem on page 99

The car is a 1925 Wills Sainte Claire.

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FOX-ARC includes a complete range of welders, welding tools and accessories.

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METHODS AND EQUIPMENT
FOR IMPROVED
AUTOMOTIVE WELDING

Leading Automotive Manufacturers in December 1961 **MOTOR**

ADVERTISERS' INDEX

This index is an editorial feature, maintained for the convenience of readers. It is not a part of the advertiser's contract and MOTOR assumes no responsibility for its correctness.

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ANOTHER BLUE STREAK
SECRET SERVICE TIP FOR YOU.

SHERLOCK MCKANICK and MIKE

"The Case of the GUARDED GENERATOR"

ANOTHER GENERATOR KILLED
TOO SOON. IF ONLY I COULD HAVE
FOUND THE TROUBLE IN TIME.

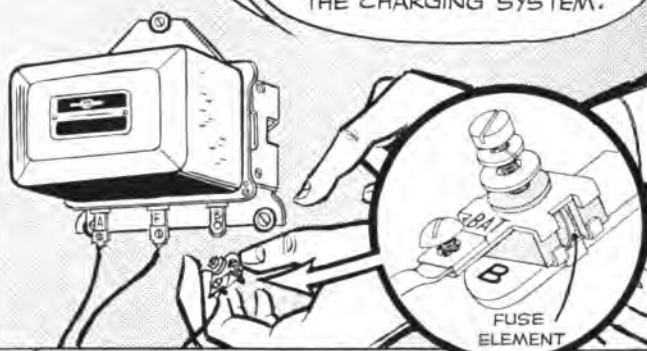
BUT MIKE, THERE
IS A WAY TO PREVENT
PREMATURE
GENERATOR
BURN-OUT.

HOW?
WHERE?

WITH A FUSE...AT THE VOLTAGE
REGULATOR. LOOK HERE...

I INSTALL THIS FUSE
TO THE REGULATOR'S "B"
TERMINAL, AND THE
BATTERY LEAD TO
THE FUSE.

I GET IT, SHERLOCK!
NOW THE GENERATOR IS
**PROTECTED AGAINST
OVERLOADS.** THE FUSE
BLOWS IF SOMETHING
SHOULD GO WRONG WITH
THE CHARGING SYSTEM.



PRECISELY! BUT
WHEN THE FUSE
BLOWS, BE SURE
TO LOOK FOR
THE CAUSE
BEFORE
REPLACING
IT.

GEE, THAT'S GREAT.
WORKS JUST LIKE A
REGULAR HOUSEHOLD
FUSE!

**STANDARD MOTOR PRODUCTS MAKES FIVE
VOLTAGE REGULATOR FUSES WHICH WILL
PROTECT PRACTICALLY ALL APPLICATIONS,
EVEN IMPORT CARS, MARINE AND
INDUSTRIAL ENGINES. THERE
ARE MORE DETAILS IN
BULLETIN #103. SEND
FOR YOUR FREE
COPY TODAY.**

STANDARD MOTOR PRODUCTS, INC.,
37-18 NORTHERN BLVD., LONG ISLAND CITY 1, NEW YORK

MIKE, I
WONDER HOW
MUCH CURRENT
YOU CAN
TAKE.

NO WONDER
42,000 REGISTERED
DEALERS SAY
BLUE STREAK
IS BETTER
FOR YOUR
BUSINESS.

WORLD'S FOREMOST
HEAVY-DUTY
IGNITION LINE

BLUE STREAK

REGULATORS • SWITCHES • COILS • CONDENSERS • CONTACT POINTS • WIRE AND CABLE



For every cleaning



DEEP-CLENE HAND CLEANER . . . GETS DIRTIEST HANDS "SUNDAY CLEAN"

The secret of the amazing cleaning action of Deep-Clene is the way it's made! Bendix Research controls every step of production—from raw material to finished product—to assure consistent high quality.

That's why Deep-Clene removes even the most stubborn grease and grime thoroughly, yet gently—no matter how deeply it's buried in the skin. At the same time, its special formula of lanolin and hexachlorophene conditions the skin, fights germs, and helps heal minor cuts. Used with or without water, Deep-Clene is great for the hands, but murder on dirt.

Deep-Clene is available in 1- and 5-lb. cans. An efficient dispenser—which fits the 5-lb. can—is also available. Ask your Bendix Distributor today about Deep-Clene . . . another quality chemical product manufactured by Bendix for the Automotive Industry.

TRUST ON BENDIX!



BENDIX CHEMICAL PRODUCTS SOLVE YOUR SHOP CLEANING PROBLEMS

Whether you're cleaning carburetors, metal parts, floors or hands, you can get the job done faster and better with Bendix Service Cleaners. They cut through all kinds of grease and grime quickly and effectively.

Each Bendix Service Cleaner is specially formulated for its particular job. Each has been tested and proved in automotive shops all over the country. Consistent quality assures uniform performance . . . cuts cleaning time to a minimum.

SPEED-CLENE—The super-fast, premium parts cleaner. Safe, easy to use . . . needs no scrubbing or scraping.

METAL-CLENE—The cold-immersion cleaner for cleaning of metal parts in its own container, tank or barrel.

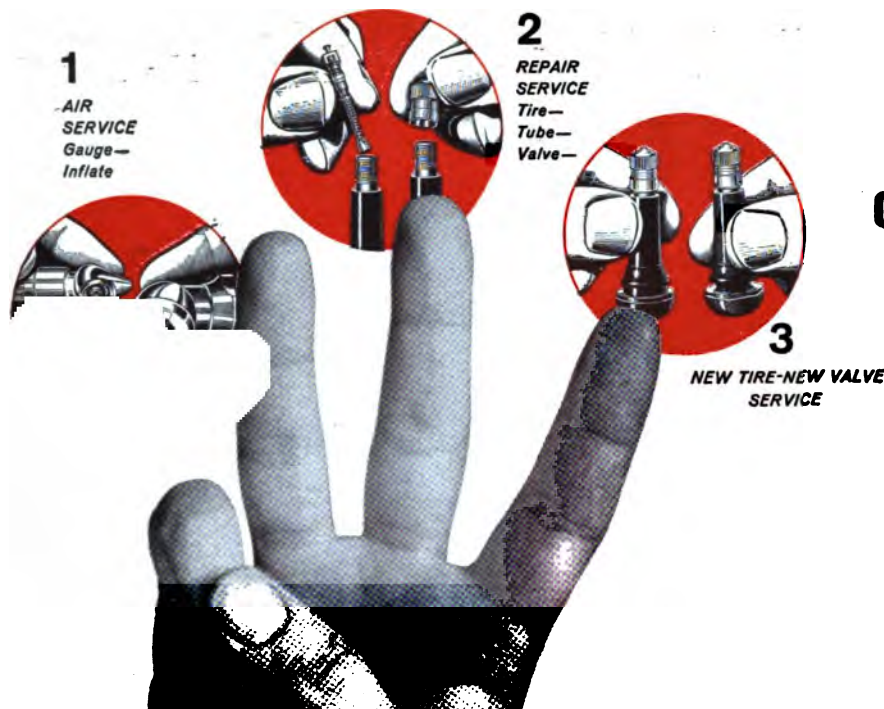
E-CON-O-CLENE®—The multi-purpose degreaser . . . can be brushed on, sprayed on, or used in a mop bucket. For parts, equipment, floors.

DEEP-CLENE®—The penetrating hand cleaner . . . gets away ground-in grime and grease . . . conditions skin. Cleans. Convenient dispenser available.

Bendix Automotive Service Division, South Bend

Bendix Automotive Service





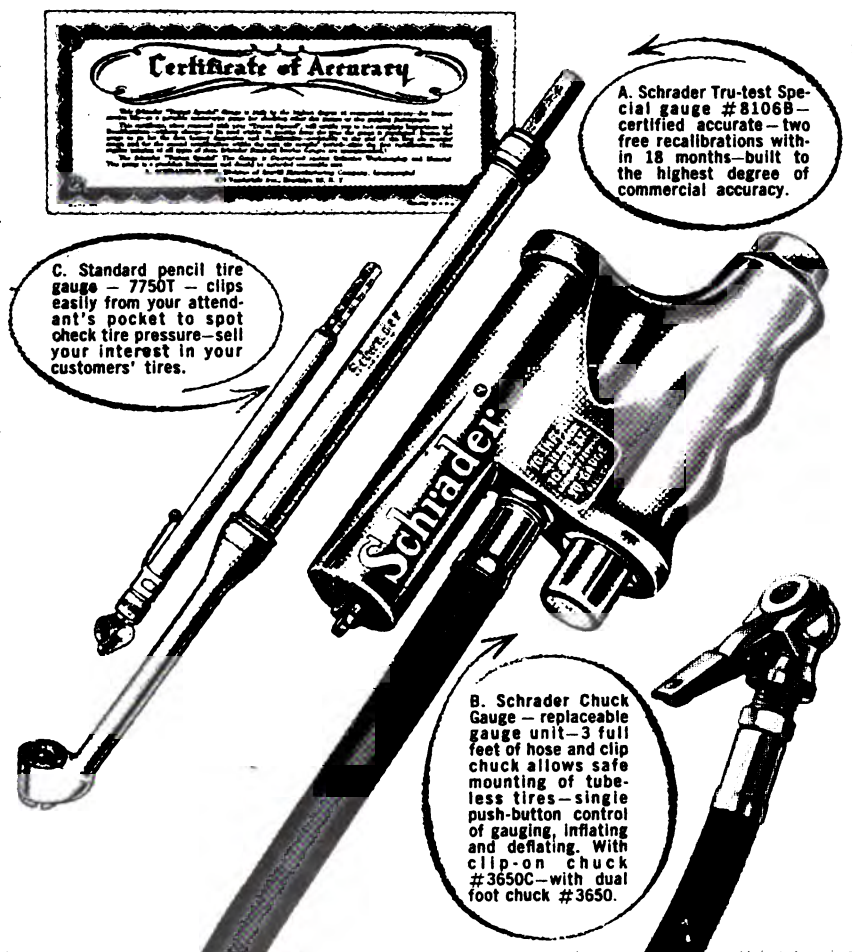
Cut tire adjustment claims! Another extra with Schrader's **TIRE-LIFE EXTENSION*** plan

Extending the life of tires makes good business sense. By keeping your customers' tires properly inflated for best wear resistance you also reduce Road Hazard Warranty adjustment claims. In addition, this plan helps sell more tires and accessories. **TIRE-LIFE EXTENSION** shows your interest in the simple service practices that people deserve and appreciate (but seldom get from your competitors).

For example, Schrader pocket gauges, dual-foot truck gauges and chuck gauges provide you with the tools to measure your customers' tire pressure, accurately every time. And you *know* they're right if you certify the accuracy of all your gauges regularly with the Schrader Tru-test Special gauge.

This one **TIRE-LIFE EXTENSION** practice will open many opportunities for sales of tires, balancing, alignments—any or all of your services.

You can see what this one practice can do in increasing regular customers and boosting sales. Use all three **TIRE-LIFE EXTENSION** services as really productive sales tools. But make sure your products are as good as your service. All Schrader products have the extra elements of quality that make for steady business.



*What is the **TIRE-LIFE EXTENSION** plan? Simply applying the three handy practices shown above. By using this plan dealers benefit three ways: 1. Fewer Road Hazard Warranty adjustment claims. 2. Additional new business in tires and accessories. 3. More steady customers.

Schrader
a division of **SCOVILL**

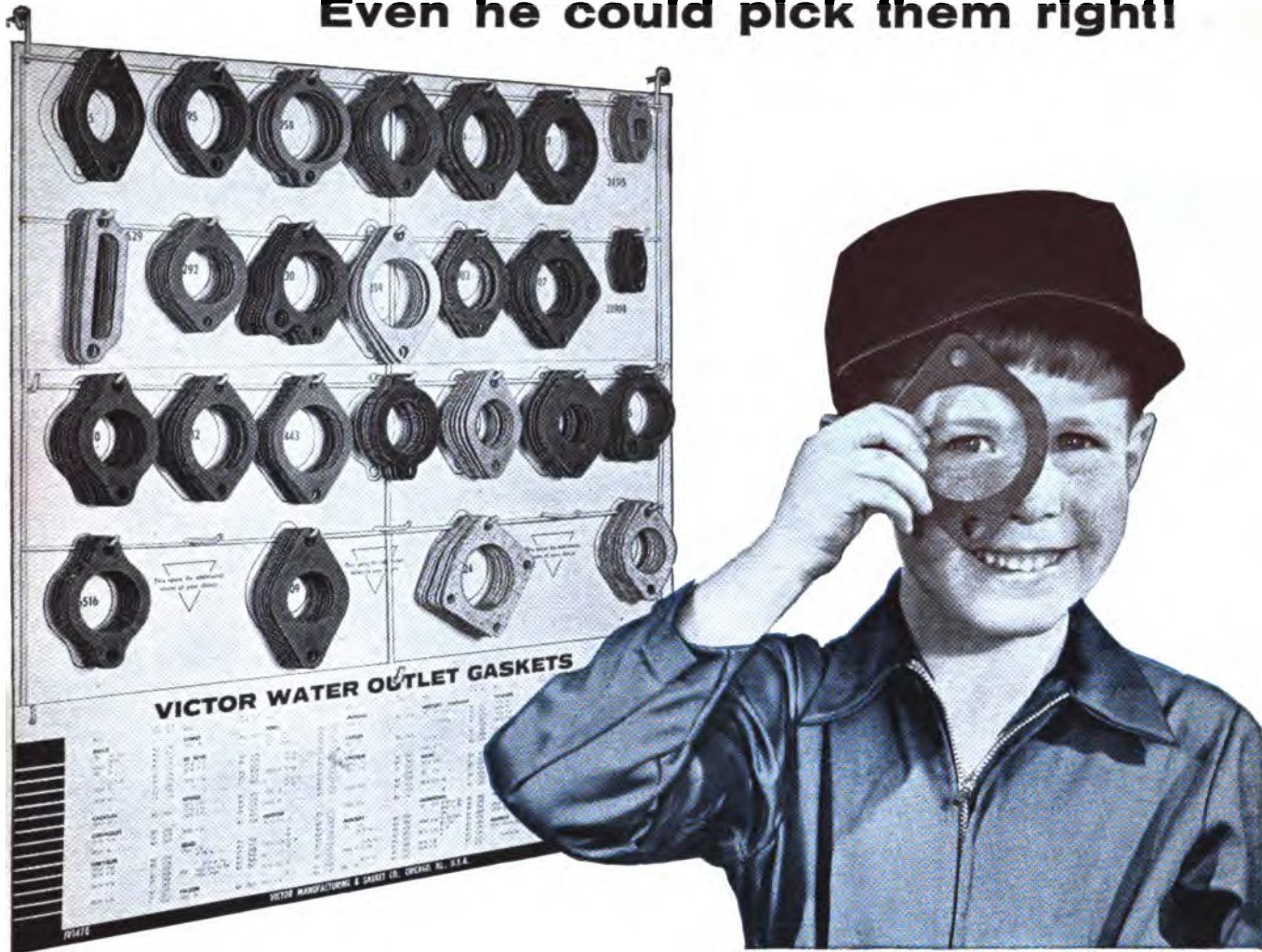
A. SCHRADER'S SON • BROOKLYN, 38, N. Y.
Division of Scovill Manufacturing Company, Inc.

FIRST NAME IN TIRE VALVES
FOR ORIGINAL EQUIPMENT AND REPLACEMENT

Made in America to American standards of quality by American craftsmen

MOTOR, December 1961

Even he could pick them right!



VICTOR WATER OUTLET GASKET ASSORTMENT

Makes Accurate Selection So Handy . . . So Easy!

Helps you handle more cooling system service business. New type wall rack holds complete, fast-moving assortment . . . quickly identifies all stock . . . gives complete application data . . . shows refills needed. **FREE** replacement backboards for your rack, updated for new assortments when released, will make your rack useful, up-to-date for years.

SAVES TIME—SPEEDS SERVICE in shops and stations

- Covers most cars on the road—including 61's
- Original Equipment Quality gaskets throughout
- Easy-read stock numbers that stay readable
- Extra hooks for extra gaskets you may want
- Gasket refills available as needed
- You buy one rack—Victor keeps it useful for years



Free renewal listings service

Be sure to fill in and mail this postage-paid card enclosed with your rack. It gets you the free replacement backboards

with new assortment data—year after year—to help keep your rack and stock always current.

Take your choice of large or small assortment—(25 varieties—280 pieces total) or (12 varieties—120 pieces total). Order from your Victor Jobber today. Victor Mfg. & Gasket Co., P.O. Box 1333, Chicago 90, Ill. Canadian Plant: St. Thomas, Ontario.

VICTOR

Sealing Products Exclusively

GASKETS • OIL SEALS • PACKINGS

The Only 100% Coverage Line . . . for Cars, Trucks, Tractors, Stationary Engines

3/8" square drive
"MIDGET"
AIR-WRENCH
Capacity: 3/8"
Std. Bolt Size.



1/2" square drive
"WHIPPET"
AIR-WRENCH
Capacity: 1/2"
Std. Bolt Size.



1/2" square drive
"RELIANT"
AIR-WRENCH
Capacity: 5/8"
Std. Bolt Size.



3/4" square drive
"POWER MASTER"
AIR-WRENCH
Capacity: 1"
Std. Bolt Size.



1" square drive
"TORK-RITE"
AIR-WRENCH
Capacity: 1-1/4"
Std. Bolt Size.



**you can turn out more jobs, save more time,
and improve your profit picture with**

CP IMPACT WRENCHES, ZIP-GUNS and AIR DRILLS

**Take CP Air-Wrenches . . . there's a wide range
from 3/8" square drive to 1" square drive . . . that
can add speed to the skills of the best mechanics
by saving 90% of bolt or nut time.**

MONROE ads are sending you customers to try this Shock Absorber Demonstration

it **FREE**, and sell **MONRO-MATICS®** the barrel! Monroe-Matic® shock absorbers and Super Load-Leveler® stabilizer units practically sell themselves with sensational new barrel demonstrator that comes free with Monroe's BD-18 kit. Dealers are increasing sales up to 50% with it.

Now the barrel is being promoted in **Monroe** advertising in **LIFE**, **THE SATURDAY EVENING POST**, **LOOK**, **HOLIDAY**, **SPORTS ILLUSTRATED**, **POPULAR MECHANICS**, **POPULAR SCIENCE**, **MECHANIX ILLUSTRATED**, **FIELD & STREAM**, **OUTDOOR LIFE** and **SPORTS AFIELD**, telling car owners to "look for the yellow and blue barrel" wherever cars are serviced. Tie in with this month-long campaign, and sell shocks like you've never sold them before. Call your Monroe jobber today!



PROFIT STORY	
BD-18 Assortment	14 Monroe-Matic shock absorbers 4 Super Load-Leveler stabilizer units
Your selling price	.....
cost	.....
YOUR PROFIT	.....
FREE	
\$10 shock demonstrator \$ 5 painted barrel test 2 shock absorber window 2 Load-Leveler window 10' plastic outdoor banner 100 handout leaflets	

MONROE AUTO EQUIPMENT COMPANY
 Monroe, Michigan. World's largest maker of ride control products • In Canada, **MONROE-ACME, LTD.**, Toronto, Ontario • In Mexico, **MEX-PAR**, Box 28154, Mexico City.



try the piston ring set* that truly controls oil

*

EACH MUSKEGON ENGINE-DATED

piston ring set consists of a carefully coordinated arrangement of compression and oil rings... the right ring for each groove to assure maximum performance in a particular engine. The result, is your customer will get the economies he expects from your work. Muskegon has been designing and developing piston rings for the Engine Builder since 1921... this is why more than out of every 3 new cars is equipped with Muskegon and why your best buy is the Muskegon "Engine Dated" Set. Ring job costs are reduced too, because Muskegon takes inflation out of piston ring pricing—passes along to you important savings resulting from economies in Muskegon's distributing plan.

Packaged attractively with color-coded inner containers to guide you in getting the right ring in the right groove. Complete instructions to assure entire satisfaction every time!

JUST TRY THEM ONCE AND YOU'LL SEE HOW "ENGINE DATED" SETS TRULY CONTROL OIL, ARE EXCITING TO SELL, A PLEASURE TO INSTALL

Request This Fact-Filled Booklet. Six easy-to-read pages tell about the "Booming Engine Repair Business Ahead" and how "Re-Ringing Leads to Related Sales." Ask your Muskegon jobber for a FREE copy or write us direct!

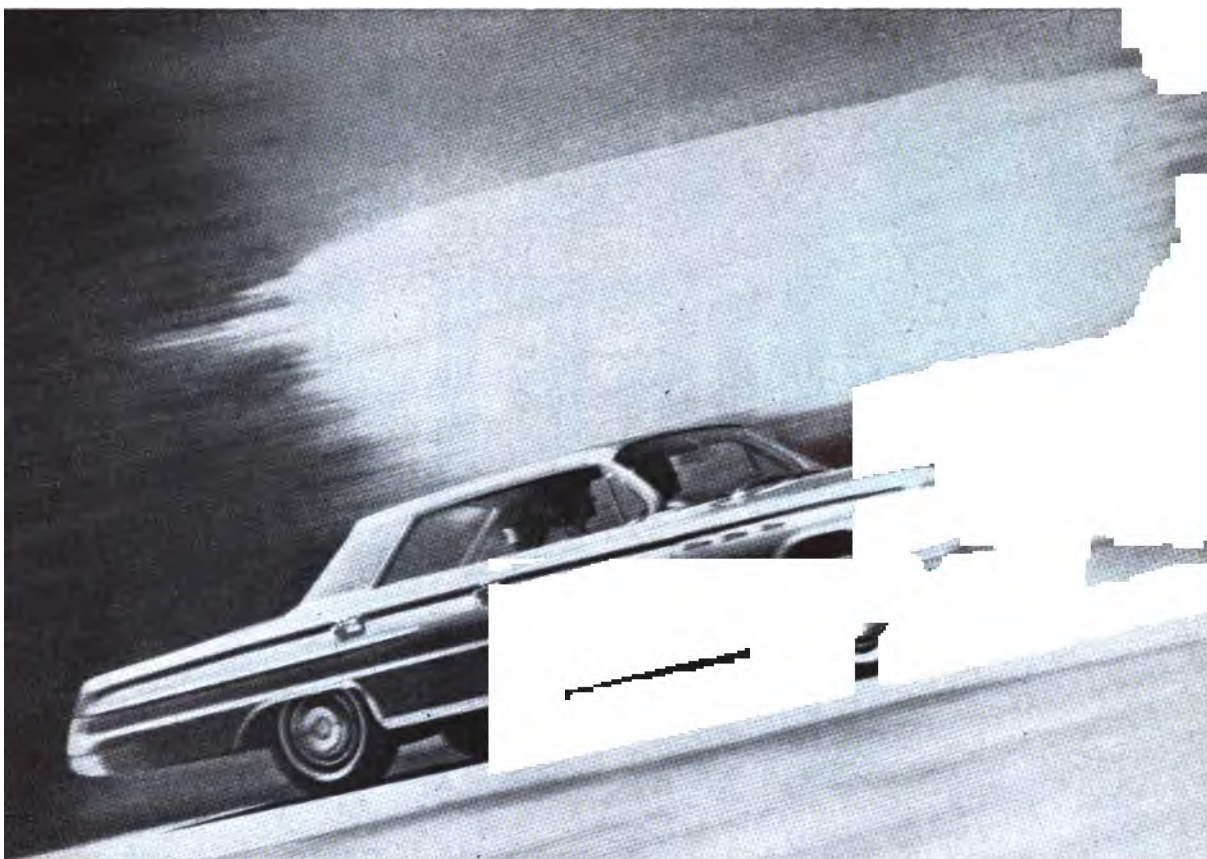


MUSKEGON
Piston Ring Co.
MUSKEGON, MICHIGAN

MPR

PLANTS AT: MUSKEGON
SPARTA • CHICAGO

MUSKEGON PISTON RINGS
The industry's source for original equipment and replacement for piston rings and transmission parts



THE BIG DIFFERENCE IN '62

ADVANCED THRUST

WHAT IT IS: A completely new concept in engine mounting and front-end suspension design. Advanced Thrust positions the mighty Wildcat V-8 Turbine Drive forward over the front wheels. Putting more weight over these wheels enables them to resist being turned from their course by side winds. It takes advantage of the principle that the center of wind pressure against a moving car is toward the front end . . . and that more weight *ahead* of this center of wind pressure improves directional stability.

WHAT IT DOES: To begin with, Advanced Thrust makes your Buick track truer and straighter. But it also has other effects you'll appreciate. Snappier wheel response and return. Less road shock up the

steering column. Flatter cornering because front-end frame has been made wider. And, the engine moved forward, the front floor's nearly flat.

WHY YOU'LL LOVE IT: Advanced Thrust makes your driving safer, smoother, more relaxed. Buick stays right on course — even in gustiest winds. Going is surer on ice, snow, wet roads. With the new flatter floor, middle passengers have more room for legs, knees, and feet. See and feel the *big* difference in the '62 cars — drive the Advanced Thrust '62 Buick. Now at your Buick dealer's. Buick Motor Division—General Motors Corporation.

'62 BUICK

HOW TO SELL MUFFLERS "BY EAR"

...with the help of
Armco ALUMINIZED STEEL



First... Listen

Your trained ear tells you when a customer's muffler needs replacement.

Then . . . let your customer hear about the quality features of mufflers made of Armco ALUMINIZED STEEL.

These rugged mufflers *more-than-double* average muffler service life because ALUMINIZED STEEL (steel hot-dip coated with aluminum) fights heat, exhaust liquids, and road chemicals.

Let these outstanding features boost your muffler sales. Write us for names of manufacturers of mufflers with vital parts made of ALUMINIZED STEEL. **Armco Division, Armco Steel Corporation, 2431 Curtis Street, Middletown, Ohio.**

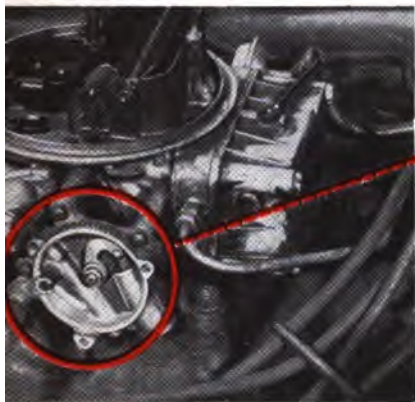


This symbol stands for durable, dependable steel.



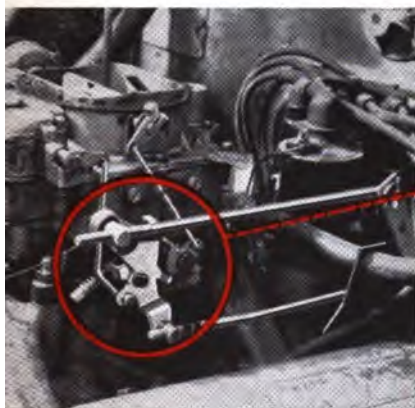
Armco Division

GUMOUT automatic choke



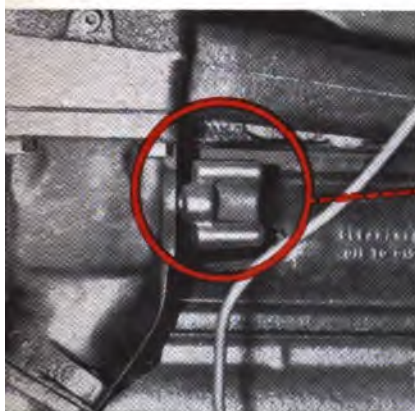
Frees Sticking Chokes

Just squirt on both ends of choke valve shaft, then remove choke cover and flood vacuum cylinder while the engine runs. Works instantly!



Cleans Carburetor Linkage

Dirty, oily linkage can badly foul up carburetor performance. Now you can clean it in seconds!



Loosens Manifold Heat Controls

Quickly penetrates and frees heat controls frozen by rust and carbon. Leaves no oily residue to form carbon and cause further sticking.

Service stations and tune-up specialists everywhere are talking about the really great "assist" new GUMOUT Automatic Choke Cleaner gives. It's quick. It's easy to use. It's effective. And it's inexpensive (a little goes a long way). If you haven't already tried this "powerhouse" in the jet-stream can, order from your GUMOUT jobber today!

GUMOUT DIVISION, PENNSYLVANIA REFINING & MARKETING CO.
CLEVELAND 4, OHIO

Sealed Power **ELECTRO-POLISHED STAINLESS STEEL** oil rings have

ma*

*mechanic appeal

HERE'S WHY: THEY'RE A CINCIN TO INSTALL. CONTROL OIL FROM THE WORD GO... PREVENT

COME-BACKS. Want to make a reputation for overhaul know-how? It's easier done than said—with Sealed Power KromeX Ring Sets. They control oil, last longer thanks to Sealed Power's Stainless Steel oil ring.

To start with, Stainless Steel is a superior metal. It retains tension at high temperatures. And glittering electro-polished Stainless Steel resists pitting and etching of gases. Carbon doesn't cling... return oil vents stay clean and free, don't clog.

Add Sealed Power's patented, proven design and you get two more bonus benefits: rings that hold their fit in the bore—and an end to groove depth problems, once and for all. That's because proper tension in these rings does not depend on contact with the bottom of the groove.

Installation is easy. No shims, no springs, no gauges. Sealed Power Corporation, Muskegon, Michigan.



Sealed Power Piston Rings

100,000,000 cylinders
can't be wrong!

**REACH FOR THIS
FAMILIAR RED BOX**



PISTON RINGS • PISTONS • PINS • SLEEVES AND SLEEVE ASSEMBLIES • VALVES • WATER PUMPS

PURITAN
HYDRAULIC
Brake Fluid

PURITAN
HYDRAULIC
Brake Parts

...Let
This
Profit-Pair Make You Money!

The Puritan Brake Products line will help you capture the hydraulic brake work going past your door. You can get into this profitable business by simply contacting your jobber for Puritan details.

Brake Fluid	Repair Kits
Master Cylinders	Brake Hose and Fittings
Wheel Cylinders	Steel Brake Lines
Stop Light Switches	



The WEATHERHEAD Company

DEPT. T12
CLEVELAND 8, OHIO

PURITAN
BRAKE FLUID & OILIN MATHIESON CHEMICAL CORP.

A Puritan Extra: Puritan has an improved numbering system for easier inventory control plus a tamper-proof carton to save you time and tr

PICTURE
THE FUN
FOR YOU AND
YOUR FAMILY
WITH

Purolator's



It's easy and fun to take movies with this solid, dependable, foolproof camera—*made and backed by Kodak*. You just dial to the kind of light you are shooting in, aim and press the button. The Kodak *f/2.7* camera is included in every 1962 Bonanza.




when you know where to look!

pumps, even the best of them (and that means AC), good prospects for replacement by the time they've reached 30,000 miles. When they aren't replaced, the driver risks poor engine performance . . . and you legitimate profits.

It shows that 80 percent of the vehicles on the road have traveled 30,000 miles or more and are prospects for a new fuel pump right now. Four out of five of all vehicles are equipped with AC fuel pumps original equipment. These figures mean business for you. Make sure your stock of AC Fuel Pumps is

adequate, and start looking for new customers now! It's easy. Any car over two years old is a hot prospect. Point out to motorists that a fuel pump with 30,000 miles behind it has pulsated 45 million times. They'll understand why it's time to protect their future driving with a new AC Fuel Pump.

Don't let this profitable business get away. Look for the sale, then sell AC! Your customers will thank you . . . and you'll ring up healthy new profits. You get ACTION—volume sales ACTION—with AC Fuel Pumps. AC SPARK PLUG  THE ELECTRONICS DIVISION OF GENERAL MOTORS

sales
you get **ACTION** with **AC** 
FUEL PUMPS

PICTURE
THE FUN
FOR YOU AND
YOUR FAMILY
WITH

Purolator's



It's easy and fun to take movies with this solid, dependable, foolproof camera—*made and backed by Kodak*. You just dial to the kind of light you are shooting in, aim and press the button. The Kodak *f/2.7* camera is included in every 1962 Bonan